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### WHAT THE STATE HOSPITAL CAN DO IN MENTAL HYGIENE.\*

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In most of the states, the best, and in some the only organized agency for dealing medically with mental disorders is the state hospital. Outside its walls the field of psychiatry is a neglected waste. The organized provision differs little if any from that employed in the management of behavior disorders generally, and society seems oblivious to the advantages and necessity of providing intelligently for the special needs of persons suffering from mental disorders. To an informed observer, it seems remarkable that in dealing with the personal and social difficulties occasioned by these disorders, so little use is made of the special knowledge and skill which have been gained from their medical study. Outside the hospitals, skilled workers are extremely few in number, and it is said that, in some states, not a single specially qualified physician can be found to whom a mental case may be referred for advice and treatment. It is deplorable, too, to note the extent to which this situation is, through ignorance, accepted by the medical profession as well as by society generally, without protest or effort at correction. That special knowledge and expert advice and treatment may be of value in other forms and degrees of mental disorder than those which completely incapacitate the individual for self protection and social adjustments, is a thought which has not yet taken a firm hold in the social consciousness. The state hospital is still, by perhaps the majority

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of people, regarded merely as one of the resources which have been provided to enable the social body to relieve itself of objectionable members, and the interest and support given it are too often based on this view. The special knowledge and skill which, in most places, are considered indispensable to its proper management are looked upon as peculiar to the requirements of institutional treatment, and not at all essential in the treatment of the individual before he is given access to it or after he is discharged. Even the discharge, whole and in their right minds, of a large proportion of the patients admitted to the hospitals has failed to convey to the public or even to the medical profession a belief in the value of the application of equal knowledge and skill to the early stages and less incapacitating forms of mental disorders or to the conditions out of which they originate. A striking contrast prevails between the intra-hospital and the extra-hospital knowledge and methods. There is, in consequence, little or no co-operation between the hospital and possible or actual outside agencies, or between the hospital and the outside physicians, and the standards and methods differ so widely that no continuity of effort can be brought to bear on the study and treatment of the cases, or on the problems of prevention and of anticipation of consequences.

While the conditions outlined prevail in many, perhaps in most of the states, in a few the advantages of a wider application of psychiatric knowledge and skill are beginning to be realized, and practical steps have been taken towards extending the activities of the state hospitals, and towards improving other existing agencies for psychiatric work and establishing new ones. This tendency is fostered, and to some extent has been created, by the organized agencies which have been established for the advancement of mental hygiene, the principal of which is the National Committee. The fundamental aim of the mental hygiene movement is to spread abroad the knowledge which has been gained in the medical study of mental disorders, and to promote in every way possible, its effective application in dealing with the problems occasioned by these disorders in the individual and in the social body as well as in hospital work. In the work which has been undertaken in the various states and municipalities, the state

hospital is the best and frequently the only existing organized agency which can be utilized, and no other is so important or so capable of immediate and permanent usefulness. The special knowledge, judgment, and interest which are essential to the proper direction and conduct of the work are possessed principally, and in some places solely, by the state hospital physicians. Without their co-operation and participation, a properly organized effort can scarcely be undertaken, and the advice, guidance, and active direction of psychiatrists are constantly needed in the educational and constructive activities which the mental hygiene organizations engage in. In the states in which mental hygiene work has been undertaken, the state hospital managers and physicians have, by furnishing lecturers, by preparing and distributing literature, by providing material for exhibits, by aiding in surveys, by becoming members of committees and societies, and by aiding in obtaining popular or governmental support for objects aimed at, rendered invaluable service. Experience shows that this kind of aid may be confidently expected. It is, however, by extending the activities of the hospital itself beyond the present limits, so as to deal with mental disorders in closer relation with the conditions in which they arise and in which they interfere with the social welfare, that the state hospital, as an organized agency, can contribute most to the advancement of the aims of the mental hygiene movement. By this extension, the knowledge and skill which have been acquired in the study and treatment of patients in the hospitals, can be brought to bear on the problem of mental disorders as it exists in the home, in society, and in the individual in his natural environment. The widely prevalent view that the study and practice of psychiatry, and that hospital organizations, can be of service only in hopeless conditions will thus be dispelled, and their value in individual and social conditions which are remediable will be practically demonstrated and accepted. This result has already been in some measure accomplished, and an increasing respect and demand for the services and advice of psychiatrists are distinctly noticeable.

The manner of finding entrance to the broader field of usefulness which is opening for the state hospital will vary with the standards reached in the work for mental disorders in each state

and in each hospital. Unfortunately, these standards vary widely. There are still some states, in which even the simplest principles and methods of intelligent humane care have not yet found full acceptance and application, and persons suffering from mental disorders are permitted to languish in misery and neglect in jails and poorhouses. In others, realization of the necessity and advantages of hospital provision has been reached, but there is no clear conception of the special character of the medical and nursing attention which is indispensable to the proper study and treatment of the patients, and political and personal considerations are permitted to impair fatally the quality of service rendered. In still other states, the hospitals have reached a high state of efficiency, and in still others a centralized state system has been organized for shaping and supervising the provision and methods of dealing with mental disorders both within and without the hospitals. Present indications are that such a system will eventually be established in every state, and our aim should be to see that it is organized on a capable expert footing. Whatever the system or standards may be, however, they are likely to be improved by extension work. In the states in which the standards are low, a rapidity of progress far beyond what has previously been possible may be accomplished by means of the educational and constructive activities of the mental hygiene agencies. The best starting point for extension work is, undoubtedly, *the thorough study of the patients under treatment in the hospitals*. It was pointed out by Dr. Meyer in 1906, at the inauguration of an after care system in New York State, that "through the demand for a thorough study of each case the hospital physicians were confronted over and over again with the need of accurate knowledge of the constellation in which the patient came to grief. This quite naturally led to an attempt to visit the home or to have it visited by some one who knew what was wanted." A great deal, he said, had been done to give a more and more concrete form to the interest of the hospital physicians in the families and environment of the patients. Similarly, when the question of the discharge of a patient was considered, knowledge of the environment to which the patient would return placed the physicians in a much more responsible and helpful position. In many of the states, the only place where persons suffering from mental disorder are studied is the state

hospital. It is of special importance therefore that the work should be well done. Knowledge begets interest, and interest begets activity. Pessimism concerning mental disorders is not found among those who study the patients scientifically. There is no better test of the quality of a state hospital than the knowledge and interest in the individual patients which are manifested by the hospital physicians. Interest in the plant and equipment and in the live stock on the farm may be commendable but when it supersedes an active interest in the patients and a sound knowledge of their condition and needs, there must surely be something wrong. To the physicians who faithfully study and treat the patients in the hospital, it always seems unsatisfactory and unwise to cut them off at their discharge from the knowledge and ability to help which have been applied during their stay. Frequently, the hospital physicians alone are in a position to supply the special knowledge and skill which may be required to guard against relapse and to aid the patient in readjustments to domestic and social relations. Considerations of this kind have led to the introduction of methods of keeping patients under supervision and exercising some influence in shaping their lives after they have left the hospital. The parole system, the boarding out system, the after care system, and more recently the social service and out-patient developments have been undertaken with these among the objects aimed at. The employment of social service nurses to aid in the readjustment of patients after their discharge has been introduced quite extensively in Massachusetts and New York. Most of the state hospitals in these states are furnished with these nurses and the work they are already doing in some places is quite impressive. In Massachusetts during a period of three months the number of visits made by the social service nurses was 2516. The educational value alone of bringing into close relation with the homes of the patients, and with the communities, persons who possess knowledge and skill concerning mental disorders can hardly fail to be useful. Individuals and families with psychopathic tendencies are brought under observation and the way to preventive work may be opened. The knowledge of defects in local provision and methods for dealing with mental cases which is gained by these nurses, may also be of value in bringing about improvements. For twenty years, in New York

State, it has been customary to send nurses for the patients committed to the state hospitals. This was perhaps, among the less conspicuous benefits of state care of the insane, the most helpful. These nurses, by their methods, wherever they go present an object lesson in the proper treatment of persons suffering from mental disorder. They also obtain information concerning the local provision and methods for furnishing temporary care for mental cases, and a few years ago the information thus obtained made it possible to secure legislation by which medical responsibility and methods were substituted for the police system which had previously prevailed. The out-patient clinics for mental cases which have recently been established in connection with a number of state hospitals serve the double purpose of providing means for continuing the medical observation and treatment of patients who have left the hospital, and of giving mental cases who have not been in the hospital access to the special knowledge and skill which they require. Thirteen of these out-patient clinics have been opened in New York State, and state hospital physicians, in some instances, furnish medical service for clinics connected with medical schools. Nearly, if not all, the Massachusetts hospitals conduct out-patient clinics, that at the Psychopathic Hospital in Boston being by far the largest. The number of visits made to the Massachusetts clinics during a period of three months was 2676. A large proportion of those who attended had not been state hospital patients, and 125 were children who were sent to the clinics from the schools. The advantage of giving these cases access to psychiatric knowledge and advice must be apparent. It has been found in New York that by circularizing and notifying other social agencies the clinics can be readily built up. On the first day, at a clinic recently opened in Brooklyn, eighty patients applied. The clinics are not always or solely conducted at the hospitals, but are at convenient locations in the hospital district. One of the practical results which may be accomplished by means of out-patient clinics was illustrated at White Plains, New York, where, within a year after the physicians of Bloomingdale Hospital began to examine the children in the schools, an ungraded class in charge of a specially qualified teacher was organized by the school board. The work of the clinics takes the time and attention of the hospital physicians, but the reflex on the hospital from

the larger outlook and interest provided fully compensates. Access to different material from that furnished by the hospital, and the opportunity afforded for a more complete study of discharged hospital cases are appreciated by the physicians, and none who begin wish to discontinue. Nearly every new feature of hospital work has been started without much support and the comparatively small cost of social service workers and out-patient clinics will, when their value as a means of reducing the necessity of prolonged hospital care is shown, render it comparatively easy to obtain special support for them.

Attendance at out-patient clinics brings the hospital physicians into contact with the general medical practitioners in a way that is mutually helpful. The latter have an opportunity to see the psychiatrists at work on cases with which the practitioner is familiar, and any help given increases his interest and respect for psychiatry as well as his inclination and ability to support the hospital. This has a distinct educational value which may be enhanced by occasional talks to physicians invited to meet for the purpose or at meetings of the medical societies. Medical meetings may also be held at the hospitals. Talks to teachers whose pupils have been examined at the clinic and to parents may also be given to advantage. The mental hygiene organizations also look to the hospital physicians to make addresses. This method of spreading abroad knowledge concerning mental disorders is employed quite extensively in Massachusetts and New York, and possibly in other states concerning which I am not so well informed. In Massachusetts during a period of three months, thirty-three talks and addresses to small and large audiences were given by the state hospital physicians. In New York, nearly all the lecturers listed by the mental hygiene committee are hospital physicians. Useful activity of this kind outside the hospital not only brings relief to many sufferers, but aids in creating among the people of the state a feeling of confidence in the hospital, and in establishing understanding and respect for the work in which the hospital physicians are engaged.

The present indications are that hospital extension work will ere long be generally regarded as a definite part of every well organized state system of dealing with mental disorders. Society is beginning to find out that what has been learned in the medical

study of these disorders may be made useful in dealing with difficulties which have heretofore been considered outside the range of psychiatric knowledge and activity. It has long been realized by psychiatrists that this knowledge might advantageously serve a wider field than that of hospital treatment. The difficulty has been to have it accepted and applied. Now society is beginning to reach for it and is ready to co-operate in applying it. There are even indications that the field is growing more rapidly than the number of qualified workers, and unless psychiatrists co-operate or lead there is some danger that plans may be shaped and work undertaken without the wise guidance and skilled attention which are needed. The state hospital and its workers can no longer remain as isolated from general medical and social interests and activities as in the past. Their responsibilities and opportunities are becoming more and more clearly defined. As Dr. Meyer has suggested, their usefulness can be much increased by assuming some responsibility for the psychiatric standards of the district in which the hospital is located. The hospital can be a live center of psychiatric knowledge and influence. It can develop its facilities and methods with a view, not only to providing care and treatment for patients who may be brought to it, but to establishing active relations with the different parts of the district. It can in this way do much to dispel ignorance and to establish better methods of dealing with mental disorders as they appear in the homes, in the schools, in the courts, and in the social body generally. This development in hospital work is already in progress. Its value is so apparent that it must go on and eventually it will bring the hospitals, and state systems of dealing with mental disorders of which they are a part, fully into the field of mental hygiene.

## ART IN THE INSANE.\*

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*Abstract:* Pictorial Art of the insane is very largely representative of emotional states and complexes. It is frequently erotic, has to do with primal instincts and among those who have pursued art study, is often subtly symbolic.

This is in effect, "A Study of Scraps of Paper" and the title might well be thus revised. The purpose in its presentation is to stimulate attention to little things which so commonly furnish interesting clues to mental processes.

Many years ago I wrote briefly of "Art in the Insane" under three heads:

The imitative, crude and childlike.

That of genuine value and individuality, the result of temperamental conditions and previous education in artistic lines.

The symbolic and affective.

This grouping still holds good in my own mind, but emphasis should be given the fact that in the third division is encountered an overwhelmingly large part of the pictorial creations of those whose inhibitory control is impaired and whose voluntary attention is dominated by complexes, delusions and states of feeling lying deep below the surface. Indeed, it is highly probable that the symbolic is woven into every design from the hand of one influenced by morbid states of feeling and thinking. Even apparently pure copies may represent states of feeling of the individual at the moment, as, for example, reproduction of the child's face inspired by the mother yearning, or that of the gargoyle by some bizarre association.

An eminent ecclesiastic recently remarked that his daughter saw things in art which he was utterly unable to discover. This was an expression regarding the work of one of completely sound

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mind, but in such as in that of the insane, states of feeling furnish detail apparent to the artist alone. One conspicuous debt is owing by psychiatry to the psycho-analytic school—the revelation that every word, every muscular movement, every bit of jargon, of incoherence, is prompted by a complex or momentary state of feeling, that nothing is done or uttered but has its motivation, either response to the environment of the moment or to some deep-seated suggestion or symbol making its way from hidden recesses to the surface. The thought is so well expressed by Dr. White in a recent article in the *Psychoanalytic Review* on "Symbolism" that I beg his leave to quote: "Any particular act is an end product. It is possible only because of all that has gone before. No thought, no word, no gesture, but is an expression of the whole individual—never of just that limited portion which is present as conscious idea. Our conduct is, therefore, highly symbolic as expressive of that much larger portion of us, the unconscious, which exists as tendency, feeling."

Among the drawings of a patient of education in art, suffering from dementia præcox, are numerous heads of kings and queens of the playing card order. The possible complex concerning them is half betrayed by this jingle which she has written:

Mr. B's best buggy,  
Oh! how pleasant in the barn,  
Reading, hanging on your arm,  
The day was bright and sunny,  
I wasn't looking for a penny,  
Who would take tribute?  
King Cole was at his best.  
King Cole, black eyes  
Red nose and lips to spark for money.  
What can't one do for money?  
There were whistlers three,  
Nay fiddlers we.  
A pipe and a bowl,  
A scared little cry and I  
Parted with that money.

Anyone who has seen "L'Oiseau Privé," an eighteenth century picture, will appreciate this significant passage in her writing: "You know his Chinese highness did not care for four posters. Where do you suppose he kept his Chinese hat? It is far from



No. 1.

PROPHYLAXIS & DISINFECT YOUR  
 COME AND HELP US EVOLVE. SAVE  
 SYPHILIS FOR THOSE WHO WANT IT, LET  
 GON. BE GONE.  
 WANT ONE WOMAN AND  
 MORE

JOIN THE SPENCERIAN FIRST  
 PRINCIPLE VANGUARD, BRING YOUR  
 BABIES (?) AND YOUR GO CART; COME  
 GET YOUR OWN BABY AND MAYBE A  
 HUSBAND. YALE HARVARD TECH IT AI  
 MAKE LOOKING FOR WIVES. EVERY WOMAN  
 WANTS A MAN. EVERY MAN ~~SHOULD~~ DOES

probable that he had it on his head." (Here appears a triangular figure representing a hat.) "Maybe the bird was under it."

"I am part of all I have met," she writes, and then symbols and rhythm determining expression, appear the words "Metaphysics, met-a-lamppost, met-a-bear, the place where a bear is apt to follow one." Dropping from idealization to the commonplace, she writes below the picture (No. 1) thrown on the screen, showing the head of a woman and the figure of a man:

"Oh, do you know the man with the muff,  
The man who lives in the lane,  
And do you know the girl with the muff,  
Who lives alone with her muffer."

The author of picture No. 2 was unhappily married, that is to say, there was presumably upon the physical side an unsatisfactory relation. This impression is gathered more from remarks dropped apropos of something or of nothing apparent, rather than from any complete revelation. At one time she imagined herself pregnant, the wish evidently father to the thought, and there was bitter disappointment. Eventually she became hallucinated and saturated with delusions of an erotic trend. There developed in her mind the desirability of eugenics and union assorted upon principles other than the conventional. The exhortation to "join the Spencerian first principle vanguard, bring your babies (the question mark after this word evidently referring to her own questioning during the supposed pregnancy) and your go-cart. Come get your baby and maybe a husband. Yale Harvard Tech et al are looking for wives. Every woman wants a man every man does want one woman and maybe more" sufficiently indicates the emotional state.

No. 3 is symbolic of her distaste for confinement and disgust that herself and others are led about by the nose. The line attached at the bottom of the pelvis is interpreted by the legend "Coccyx army." Further significance attaches to the word "Coccyx" in view of the plea in the previous picture for the extirpation of venereal disease.

No. 4. The buckle and owl design signifies "wisdom in eugenics." The buckle is drawn from one at her own belt and its oval shape is suggestive. The owl perched upon the crossbar symbolizes wisdom. A further interesting light upon this may



Silver Threads Among the Gold.  
Complements to Bliss Carman.

No. 3.

ΦΣ!



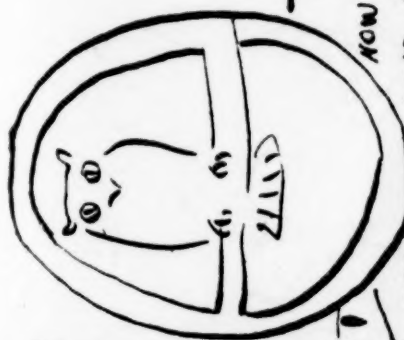
1907.

OAK GROVE

TRY YOU

TROUBLES OUT

ON US.



-0  
Kassie  
K-Ny.  
Kassie (

OAK GROVE, FLINT,  
MICHIGAN.

HOW A SANITARIUM FOR

IMBECILING THE SNAVE - COME AND JOIN THE EUGENIC  
MEN.

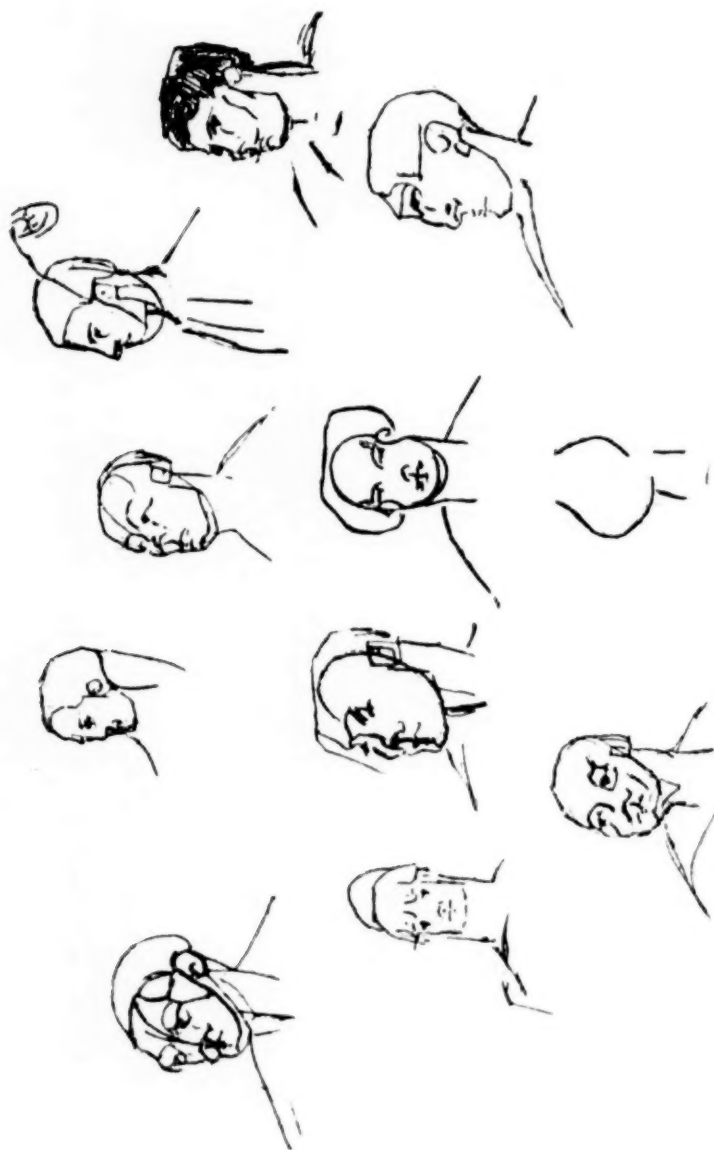
WE THINK WE'RE FOR FREE LOVE, SOUL

MATES AND DIVORCE BY OPEN AIR CONFERENCE.

WE KNOW WE'RE REJUVENATORS OF BONES, BODY

AND SPIRIT WE HAVE A JOLLY TIME

No. 4.



No. 5.



No. 6.



No. 7.

be deduced from Old English slang. "To talk buckle" is to talk marriage.

Clematis is much in the mind of the patient to whom reference was first made. She writes, copying from some source to me unfamiliar: "The feathery clematis is to me as the fluffy winter girl in her feather boa, when in curl." Here she wanders off, moved by some recollection. . . . "is that you—are your sisters the Public Garden Clematises?" and then continues, after drawing on the page a design to indicate the three-branch character of the clematis blossom: "Each branch, each terminus holds to me a plumed seed, a thought, an emblem of Free Masonry. Oh, what a tangled web I see, What mixed up in the Trinity. What hoary locks to winds set free. Your plumes an Achilles helmet in the air. A whole dragoon, a red cross knight, a Mason."

The Trinity symbolizes in her mind a male cousin who wore the Knights Templar regalia. Observe the words "plumed" and "seed." The "fluffy" feather boa is also suggestive. Picture No. 5 shows the helmet and plume.

On the original drawing, the artist's thought apparently harking back to "Ivanhoe," there appears "You are a Princess in a town. Rebecca wise you sit while round you waft the feathered smoke. Your crown of brown is gold or bronze, what matters it. A star is thereupon. You are plainly seen yet out of sight. The quality of mercy is not strained. What under the sun does that mean? You are a mystic, a crown of weeds, a plumed knight . . ."

And further on, "The spider has a name we say—the Virgin's hair she has turned lets say."

"Is yours a sceptre is yours a man I want to be an angel and with the angels stand, a crown upon my forehead and a star within my hand. So you are an angel—a place for everything and everything in its place—an angel in disgrace." "Somehow a nun wrapt with a veil over her face a gray, soft veil chiffon or a spiders web or the mystery of a none (?) a fate. Why not spin Clothes spin, Lachesis hath twisted, may Atropos never sever." To those familiar with Steckel the sexual symbolism of the spider will occur at once. The hope is above expressed that the mystic union symbolized in the spiders' weaving may never be severed by death.

The Trinity symbol appears in the numerous heads thrown on the screen.



No. 8.

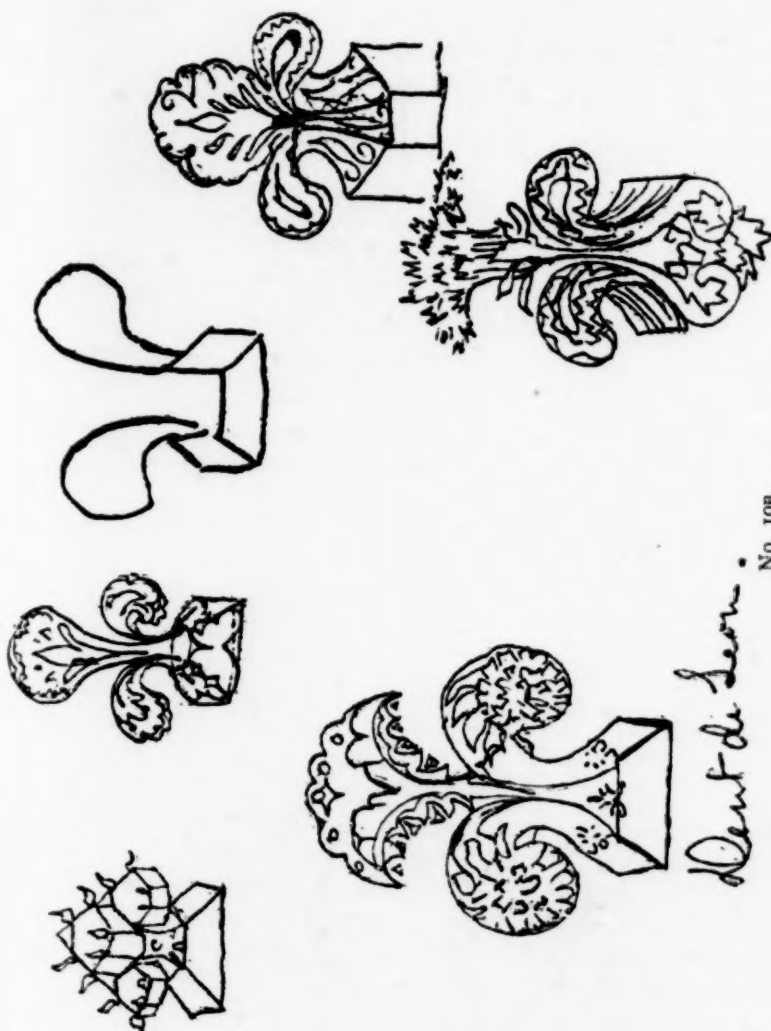


No. 9.

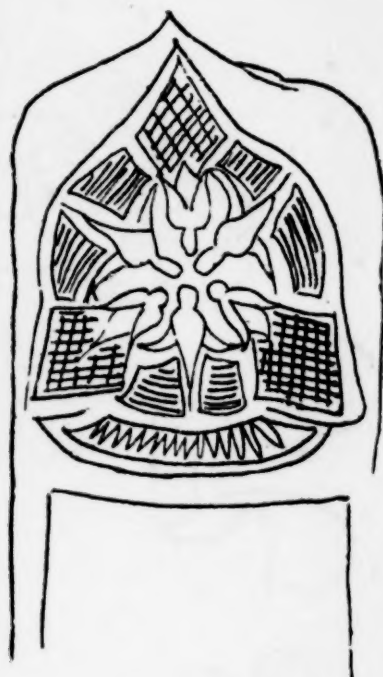


No. 10A.





*Dent de Lion.*  
No. 108.



No. 11.

In picture No. 8 there is illustrated, in portraiture, transformation from the natural to the cubistic.

In picture No. 9 from the flower conventional to the cubistic, the Trinity symbol appears very plainly in A.

In the next there appear the flower convention, the Trinity symbol, and the weird suggestion of the human face. Cuts 10a and 10b.

11. The underlying complex in connection with the imperfect




No. 12.

figure of a man, the region of the chest occupied by a conventional design, is revealed by the memorandum on the original. "If I could get at that bottom, wouldn't I fix it." To one for whom a sentimental interest has developed, she writes: "This 'The Last Hour,' it is called, seems typical of the times. Maybe you would like to know what I would do if I could. I would write it as a duo.—The instrumental would be largely her part and that a wail a sough and (only the more—the most pronounced) the melody in the accompaniment this song his up and down . . . the rhythm I cannot imagine. It seems to me like a series of themes in cadence almost a spirit singing. Do you recall 'He roamed in the

forest the whole day long For there he had heard the most beautiful song.' " And this is Dudley Buck's setting of Sidney Lanier's *Twilight* and "For lo, between our sins and their reward He sets the passion of thy Son and Lord."

In other writings (original and copied) this artist betrays the basally erotic fancies which dominate her work with the pencil. I quote: "And these lines will have characters of their own entirely apart from anything they may represent. Horizontal lines will suggest repose. Vertical lines will suggest rigidity and stability, curved lines will convey the idea of motion and curves will differ among themselves, some being soft and voluptuous, others resilient."

It was apropos of picture No. 12 that the following dialogue between the artist and myself took place:

She: "Isn't that a beautiful head?" Dr. B.: "From what did you copy it?" She: "A window, 'The Temptation of St. Anthony.'" Dr. B.: "What does this portion  signify?"

She: "I don't know. Trailing arbutus, hepatica,—it has fuzz on the stem." Dr. B.: "Of what is it all symbolic?" She: "Nothing. Oh, that dreadful symbolism!" Dr. B.: "What does the rest of the drawing signify?" She (at the same time tracing with the pencil ( ) ) "An ellipse: A something to be desired." Dr. B.: "In its entirety, it is a sexual symbol, is it not?" She: "I don't know—very likely—perhaps it was. *They were there together.*" ("They" meaning St. Anthony and the temptress.)

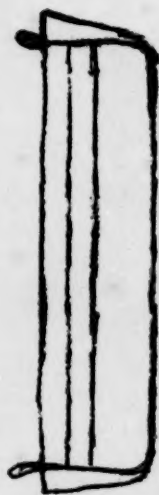
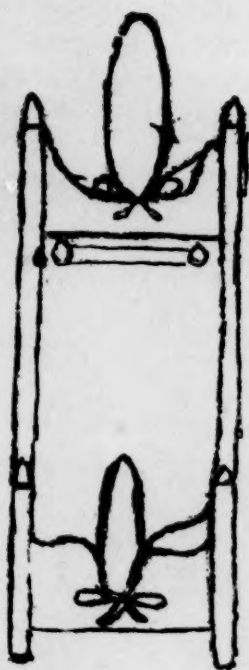
The symbolism of the Trinity within the ellipse ( ) is obvious.

13. She has drawn literally thousands of heads like those already displayed. The same theme, that of the ellipse and the Trinity, runs through them all. The subject of the miniatures is at times "Jocelyn" and at times the temptress.

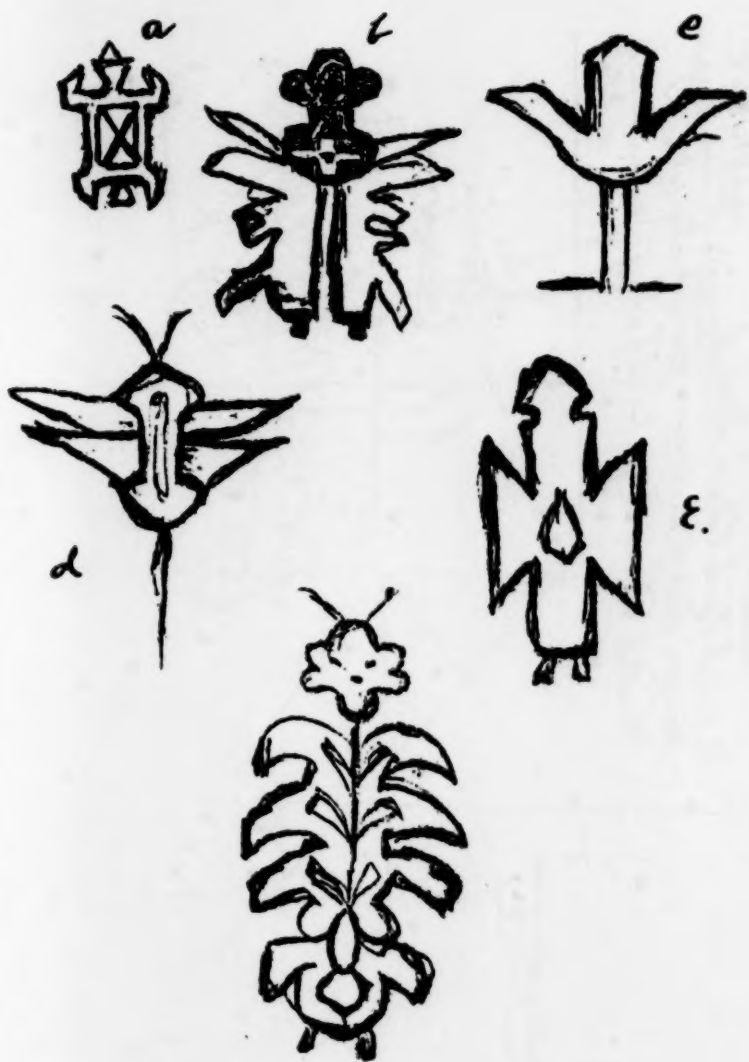
"Jocelyn," she writes, "a kind of religious romance in verse turning on the sorrows of an attached pair who were separated by the hero being induced to take holy orders." She handed the writing to me, and under breath spoke the word "Jocelyn." I inquired, "What does the word suggest?" "Copley Society" was the reply. "And that?" "Home, family. It goes way back to Genesis, 'Be fruitful and multiply.'"



No 13

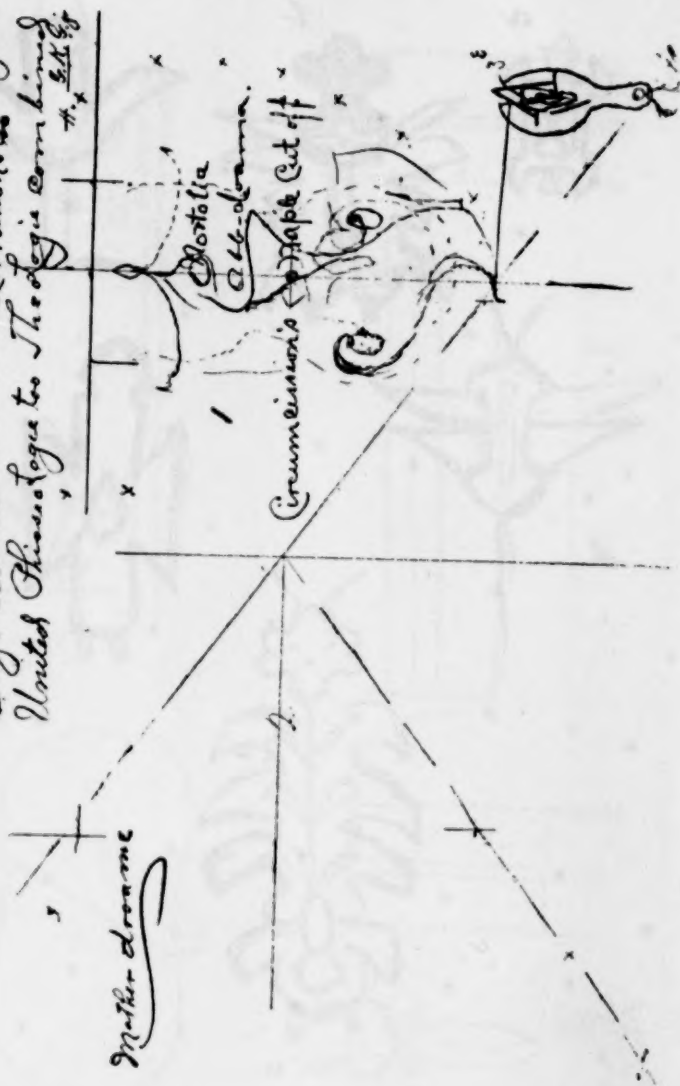


No. 14



No. 15.

Except it on the 19th Orders of Agreement under Moore's I.P.  
 Rumb Limb Organ Discharge Chapter I & P.  
 Daye occlusionis delectationis the  
 United Philosophes to Theologie combined  
 the 19th of



Walden'schen  
Sprache  
Niederdeutsch-

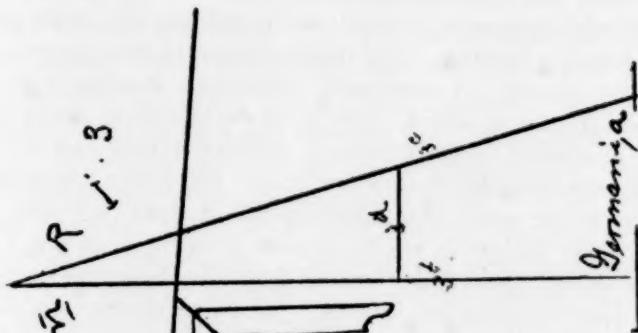
N.J.  
4a

46

4c

Lio.  
Papier

3



No. 16a.

14. The drawing just thrown on the screen was inspired in another patient by the recollection of the expected confinement of a sister. The room is in "French gray," so she said. She mentioned a miniature in connection with the oval-backed chair and said there was "something to go in there." The fourposter is sufficiently suggestive. There are in addition the couch or (upside down) a bathtub. The interpretation of this portion of the drawing reveals an interesting Bohemian evening with some women friends in which, after a late exhilarating lunch, one of them proceeded to the bathroom, denuded herself and lay in the water with an umbrella over her head. Elsewhere I have another picture by the same artist, showing this in more particular detail.

15. This picture is idealized from a figure in a rug ("a"). "You know," she writes, "those who make these rugs weave into them their thoughts and fancies." In the reconstruction, she herself has not failed in this regard. The suggestion of a human figure is given in "b." In "c" there is the Trinity arrangement, a cup and something, as she explains it, "inside the cup." An insect is evolved in "d," and the bi-sexual figure "e" is obvious. The fifth suggestion is that of a lily in its threefold arrangement.

16. A man suffering from manic depressive insanity was asked to interpret the drawing originally included within the lines indicated by the Xs. (Cut 16a.) The drawing, No. 1, is that of the abdomen and pelvis—the balance, all of which is comprised under 2, represents the beginning of things.

He began the interpretation by writing and drawing No. 3 (cut 16b). Lio is the first line (L-i-o-n). 3a is the right angle, the foundation, as he explained, of everything in architecture. The Pope equals (==) this on the ecclesiastic side. He paralleled the long arm of the right angle by 3b. This made other rectangles and a cross, and over all he wrote the inscription INRI. From the top of the upright of the cross, he drew the line 3c, and crossing this at 3d, formed the letter A. This represents the beginning: the A and Germania which he wrote below, evidently the basal factors in his thinking, but not intended to represent Germany *unter alles*.

He then carried the A over to the other sheet (cut 16a) to 3e, making a horizontal line to the end of the pelvis. Around the A he next drew the pear-shaped figure—the uterus—or the mother dom (cathedral).

Nortolia is the stomach. The angles, starting with 4a, interpret this. N for Nord or Nort, the word being completed by the right angle and cross. The Os at 4b are the eyes, or the two eyes in INRI. The R at 4c represents the balance of the human body (the remainder, the "R" among the initial letters).

"1914" underscored refers to A and the fundamental importance of Germany—the regeneration beginning in that year.

The orders of agreement under Moses, Chapters 1 to 5, refer to Genesis. Below is the rumb, meaning rump, limb, organ. The All-seeing Eye comes next and the ensemble symbolizes creation and the relations thereto of physiology and theology. The "Babylonischen Sprache" refers, so he said, to school studies in archeology and history, but another significance obviously attaches to it, namely, "confusion of tongues" (speech) in English, German, and mystical expression in drawing. Another possible significance appears later in connection with the word "Verteilung."

The abdomen, pelvis, navel, etc., were drawn to visualize a conversation with myself the year before in reference to his wife's need of an operation for hernia.

Observe the ABB or AB, the beginning of things, the Abba (Father); in other words, the symbol of creation.

Lia in Nortolia is suggested by lio, or Leo, the Pope, the head of the Church, as a living entity. Occultism, extravagantly spelled, refers to secret rebellion over his wife's attendance upon spiritistic seances.

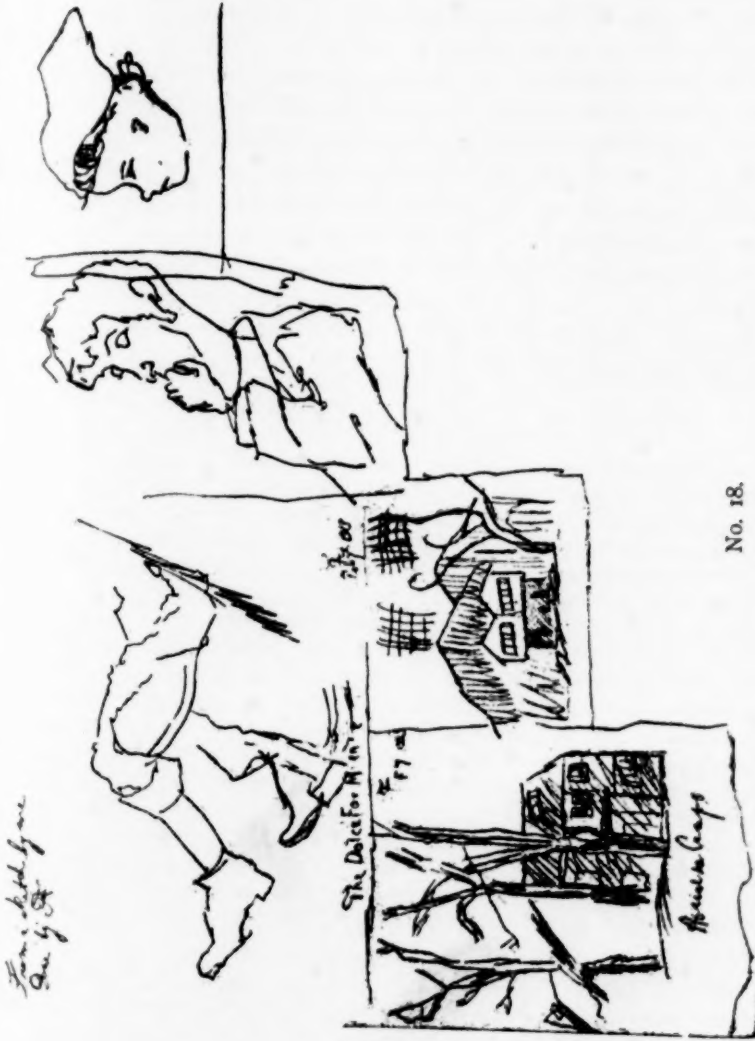
"Occoltisimiscions," read in connection with "circumcissions," may refer to premeditated vengeance of a sadistic character upon the occultist (although this was not revealed in his conversation), and "naple cut off" to the contemplated operation upon him, as well as to the severing of the umbilical cord at the beginning of independent life.

"Baby—Lawnischen" and "Verteilung" (Division). Does this refer to the judgment of Solomon as to the division of the baby?

17. "Ich bin der Herr, dein Gott." 5A represents the Ten Commandments (here again the right angle), and 5B, the Vater Unser. "Der Herr ist unsere Hilfe." (Here again the line lion, Leo, Pope.)

Ich bin das Jesus sein Gott. —  
 Das Jesus ist unsere Liebe, —

10. T. L. 5<sup>a</sup>  
 11. T. L. 5<sup>a</sup>



No. 18.

18. The drawing, "Dolce for Men," by another manic depressive patient is not without artistic merit, is an original sketch, and illustrates idleness among nurses. The first head is a caricature of a somewhat effeminate male nurse. In the second is the expression of an interesting complex. As a boy, when he first broke down, he had much to say in disparagement of his sister's nose and was at times violent in conduct toward her. Those familiar with the writings of the psycho-analytic school will recognize the sexual content of this idea, the organs of the face being surrogates for the organs of sex, the nose representing the principal organ of generation in the male. For years, during the early period of his illness, masochism was much in evidence and found expression in laceration of the skin of the nose by cutting instruments, pins, or twine. Observe the prominent and upturned nose in the profile of the little girl wearing the cap.

#### DISCUSSION.

DR. BURGESS.—I have just one remark to make. I have written two or three papers on somewhat similar lines, not scientific, but sketches for the Pen and Pencil Club, of which I am a member. I belong of course to the literary section but I have often watched artists sketch and have noted the peculiar way they look at things but I was not able to understand certain elements in the situation. Always when going out with them I noticed that they saw things in an altogether different way from what I did. They painted in different colors to what I saw in the landscape—rendered, for example, a purple tint that I could not see at all, and we were everlastingly quarreling on the subject. I would say, "You don't see things as they are," and they would reply, "And you don't see things naturally." All the artists without exception see things in nature that the ordinary individual cannot see; or at least that I cannot see, and I think I am tolerably sane so far. They see peculiar colors and details that I cannot trace at all and this has always struck me as very peculiar. I mention this because Dr. Burr in his paper has mentioned it also, the peculiar way in which artists see things. To my view they do not exercise common sense but they are honest and they do appear to see the things they claim to.

DR. WILLIAMS.—I want to add something to what the last speaker said of his difficulty in understanding some of the peculiar manifestations of artists. I have had the same experience and can explain it I believe. I have tried to understand what underlies the meaning of it and I would like to give to this body the explanation I have given to my artist friends, although I must say it does not always serve to convince them. Artists in order to succeed are prone to take up a school, with fads as we all

know. Now there they may be taught by a certain individual who develops a peculiar method. He does this so that he can make money enough to live; and his pupils carry out his system to extremes. Thus at the present time the method consists of exaggerating the tone or color. This method does not appear to let the students see things naturally. They do not see the whole color or the natural object. It is their emphasis upon that tone or color which makes a picture often look ridiculous to a man of common sense, and yet one can see the color by looking hard. For instance, if there is a color in the natural object, say purple, very faint, whereas the brown, pink or green is conspicuous, the artist refuses to make these predominate in his picture which then looks purple. He says he is portraying a mood—whatever that means—and tells you you are one of the utter heathen not to appreciate it. He is only talking the shibboleth of his own school. These remarks may not be true of great artists, but I think they are true of imitators.

DR. WAGNER.—When Dr. Burr was giving his description of the peculiar and symbolic nature of patients' drawings, my mind reverted to a case coming under my notice a great many years ago. I have no doubt the President will recall an old lady, a patient in the New York State Lunatic Asylum, at Utica, N. Y., some 30 years ago, who was under his care, who always dressed in white and who embroidered her dresses and skirts with most extraordinary and elaborate symbols. Whenever visitors went through the ward she would bring these dresses and skirts out from her bureau and explain what the designs meant. She would point to a snake, a scorpion or a Noah's ark, and a further great variety of symbols and would explain their meaning. Occasionally while proceeding with this explanation she would break out before the visitors with "Alfy, damn you, shut up; don't speak 'till you're spoken to." Then turning to the visitors she would say, "He is always doing that." She always called herself "Mrs. Lord" and when asked where Mr. Lord was, she would reply, "Why, sonny, He is up in Heaven."

THE PRESIDENT.—I recall the patient to whom Dr. Wagner refers and her embroideries, but I regret that Dr. Wagner thought it necessary to refer to the fact that it was nearly a third of a century ago that I knew her.

I would like to ask the speaker who preceded Dr. Wagner if he would apply this same doctrine in explanation of the peculiarities of certain schools of art to other schools of thought? He said that the artist has a certain school, a certain method which he inculcates and which he teaches and therefore he interprets his pictures and makes them fit with his interpretation. Is it not possible that our psycho-analytic friends do the same thing? There is occasionally a lapse, a slip-up in the interpretation of pictures.

I have seen drawings crudely made by a manic-depressive patient, but made with a definite purpose, used to illustrate the deterioration of dementia præcox. Sometimes our hospital pictures may seem peculiar only to us. However, I don't want in all this to seem to imply for a moment that Dr. Burr's interpretation is at all astray. He has shown us here that the

pictures are symbolic of ideas in the patient's mind and reflect the mental deterioration.

DR. BURR.—Mr. President, I would like to show some other pictures loaned by Dr. Dewey, which indicate deterioration in artistic work; the ruin wrought by the ravages of paretic dementia in a brief space of time. These (indicating) are architects' drawings and, as you will see, they represent a considerable amount of ability. Here is one drawn in October, 1897. Compare with these two others that were drawn in January, 1898; they show the wrecking that is represented in this short space of three months.

DR. DEWEY.—I am reminded, in connection with the description of the work of the old lady described by Dr. Wagner, of a patient who was under my care more than 40 years ago. She had a good deal of artistic ability, and was a very normal, and in fact fine-appearing woman. She had a head of snow-white hair which came down to her hips, and she arranged her room with a stained-glass window effect, using bits of colored paper, silk, etc., which produced a "dim religious" light. She also had a picture of Henry Ward Beecher and his church on the wall, designating that side as Brooklyn. Then she called the other side New York, and had Brooklyn Bridge between. She then manufactured a great number of beautiful paper butterflies, and covered the wall with them, so that her room was quite a study in very bright colors.

She used to describe her room as illustrating New York and Brooklyn with the "butterflies of fashion" going across Brooklyn Bridge to attend the services at Beecher's church. At other times the same lady would amuse herself and her fellow patients and nurses by pretending to be very insane when visitors were being shown through. She would go about apparently tearing her hair and going through very fantastic movements simulating a manic psychosis. In this connection I am also reminded of an artist mentioned in the work of Blandford who used to paint really from visual hallucinations. He would only require his people to be posed and arranged in a proper manner once and from that time on he could always see the subject in the chair or in the position required without having him present at all. He could paint his portrait from this really visual sense deception. This artist eventually became insane.

# HUNTINGTON'S CHOREA IN RELATION TO HEREDITY AND EUGENICS.

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BASED ON FIELD NOTES MADE BY

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## I. INTRODUCTION.

In the course of the work of the Eugenics Record Office our attention was called to a peculiar disease that found its home within a hundred miles of the Office. Dr. Elizabeth B. Muncey,

eugenics field worker of this office, was assigned to the task of collecting data on this family and her study took her over much of New England and the Middle States and she did her work with great thoroughness. The result was a mass of data of great value.\* Much was collected by personal observation and questioning of choreics, both in and out of institutions, much from the records of state hospitals and of town clerk's offices, much from the memory of relatives or neighbors and much from the genealogical and town histories with which New England is so well provided. To give some idea of the scope of the data collected by Dr. Muncey it may be stated that there were charted on the four great pedigree charts 441 female and 521 male choreics; a total of 962, and, in addition, 10 cases of Sydenham's chorea. Of the charted individuals, 22 per cent are choreic and 35 per cent are choreic or show other abnormalities. About 4370 individuals are considered altogether.

## 2. THE CONCEPT OF CHRONIC CHOREA.

Progressive chorea is a name applied to a group of traits shown by certain persons, who belong to a special race, strain or biotype. The traits, to the "classical" association of which the name is applied, are as follows: (1) Persistent tremors of the head, appendages and trunk; (2) the onset of such tremors in middle or late life; (3) the progressive nature of the tremors; and (4) progressive mental deterioration.

These four diagnostic characters are frequently found together; it remains to be considered whether the association is a necessary one. A brief survey of the field yields cases in which one or more of these elements are absent in certain individuals of family com-

\* A preliminary report on these data was published by C. B. Davenport under the title "Huntington's Chorea in Relation to Heredity and Eugenics" in *Proceedings of the National Academy of Sciences*, I, pp. 283-5, May, 1915. Dr. Muncey's work was done mostly during 1914. It was hoped that Dr. Smith Ely Jelliffe, who has been especially interested in the subject, would co-operate with us in the publication of a more elaborate monograph; but, although our manuscript has been in his hands for over a year, he has not been able to do so, greatly to our regret. Through an error in the reporting of the proceedings of a neurological society Dr. Jelliffe alone is made responsible for some of the findings of this paper in *Journal of Nervous and Mental Disease*. December, 1915.

plexes which comprise others with the "classical" association of symptoms. These cases may be grouped into four classes: (a) absence of the tremors, but presence of mental deterioration; (b) absence of mental deterioration despite progressive tremors; (c) absence of the progressive element of the disease; and (d) relatively early onset of the disease. These four groups of cases will be considered in turn.

A. THE TREMORS MAY BE ABSENT BUT MENTAL DETERIORATION PRESENT.

Although the presence of tremors or uninhabitable muscular movements constitutes the most important single diagnostic character of progressive chorea, there are among the children of typical choreics so many cases of dementia without choreic movements as to warrant the hypothesis that the dementing factor in a choreic strain may be inherited independently of the other symptoms.

Examples of this apparent dissociation of the dementing factor are given herewith:

(1) 15: 432.\* E. D. S. ♀ was always peculiar and *died insane*, but she showed no forced movements. Her father was typically choreic; her mother not. The patient's fraternity comprises five persons, of whom three show choreic movements and two (including the patient) do not.

(2) 15: 449, VII, 41 ♀, *became insane*, but there is no evidence of tremors; her father was *choreic and insane*.

(3) 15: 479, IX, 133. G. B. H. ♂ died at 72 years, and had *delusional insanity, but no forced movements*. His mother was choreic. Of her eight children, two had choreic movements.

(4) 15: 498, IX, 194 ♀, born about 1870; has always been peculiar and is commonly regarded as insane. She is highly emotional and excitable, and when angry "flies all to pieces" and is a veritable scold. She takes a great interest in sailors, firemen and men without homes of their own; is always hunting up sick people and taking them food; invites entire strangers in to dinner and thus has made much talk in the neighborhood. She shows no choreic movements. She has four sons (16 to 22 years of age), all peculiar in many ways. *Her father became choreic* at an early age.

(5) 15: 654, VII, 103 ♂, was state senator and became insane later in life. His father was *choreic, deteriorated mentally and committed suicide*. Of his father's three children, the above-mentioned son is the only one who did not show the tremors.

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\* These numbers refer to the pages of the original MSS. on file at the Eugenics Record Office.

(6) 15: 559, IX, 79 ♂, was insane and in a state hospital; and so was his brother; they had no muscular symptoms sufficiently marked to be recorded. Their father was choreic and neurotic.

(7) 15: 575 ♀, and her brother both had delusional insanity, but no choreic movements; their mother had the movements.

(8) 15: 583, VIII, 158 ♂, had an attack of acute mania at 20; is now, at nearly 50 years, in a state hospital. His sister is normal, mentally and physically. His mother had the motor symptoms and died a senile dement.

In the foregoing eight fraternities of choreic parentage we have thus 10 individuals who show some form of insanity—mostly delusional or dementing—without the choreic movements. These cannot be taken as a complete catalogue of such cases in our families, but only some of those most fully described.

#### B. THE TREMORS MAY OCCUR WITHOUT MENTAL DETERIORATION.

Examples of this class are given in the following cases:

(1) 15: 439, IX, 50 ♀, at 62 years chorea developed; she died at 74 years and her mentality was never affected.

(2) 15: 489, VIII, 143 ♀, at 30 years twitchings began in the left arm. Now, at about 50 years, her head and arms are in constant motion and her speech is unintelligible, but she is able to express her dissent and approval as to the correctness of statements in a way that *proves her mind to be entirely clear*.

(3) 15: 549, VIII, 15 ♀, had slight twitchings which interfered with her walking. When she died, in her 50th year, *her mind was unaffected*.

(4) 15: 554, VIII, 34 ♂, began to have choreic movements at 50 years of age, but his *mind was good when he died at 82 years*. His father had exaggerated choreic movements, but is not known to have been insane when he died at 62 years.

(5) 15: 568, VIII, 106 ♀, had aggravated motor symptoms; hands, feet and legs were affected, but, *though she lived to be 80 years old, her mind was only slightly affected*.

(6) 15: 610, VII, 237 ♀, has been slightly affected since her 60th year. Now, at 77, there seems to be no mental deterioration.

Thus, we see that in not a few cases vigorous muscular movements may take place without marked mental deterioration, even in old age, but in some such cases, it must be admitted, the choreic movements have not been extreme.

#### C. THE PROGRESSIVE ELEMENT MAY BE ABSENT FROM THE DISEASE.

The progressive element of this chorea, which has led to the use of the term for it of "chronic progressive chorea," is not

universally present, but belongs to special strains. For, while there are some strains in which the disease progresses with such rapidity that the patient is rendered helpless and bed-ridden in a few years, in other cases the choreic movements never develop far. Some examples follow:

(1) 15: 460, VII, 65 ♀, at 90 years shows only a fine tremor throughout the body involving especially the head and upper extremities.

(2) 15: 480, IX, 166 ♀, at the age of 40-50 years had a shaking which lasted for about 10 years and is said then to have passed off. For the last five years of her life, however, this shaking returned, affecting her hands and head. Her mother was choreic.

(3) 15: 503, VIII, 216 ♀, now 52 years of age, has had tremors for 12 years. When seen by the field worker "there was no noticeable tremor at first, but as she continued to give the family history her hands and head twitched almost constantly." Her father, whose twitchings began at about the same age, died helpless from chorea, at the age of 71 years.

(4) 15: 505, VII, 209 ♀, comes of choreic stock, though her father showed no motor symptoms, but was excitable, nervous and domineering. She, herself, at about 75 years, has been very slightly affected with chorea.

(5) 15: 511, VIII, 253 ♂, had only a slight tremor, beginning at 60 years, and was able to go about without help until within a few years of his death.

(6) 15: 518, IX, 236 ♂, has had choreic movements for five years, but there is still only slight muscular involvement; his mental failure is, however, marked.

(7) 15: 520, IX, 270 ♂, developed chorea at 50 years. It was never severe and mental vigor was maintained until death.

(8) 15: 648, VIII, 67 ♂, onset of chorea at 50 years. Now, at 75 years, only slightly affected; is able to walk around town and his mentality is good. His son IX, 31, is also only slightly affected with chorea.

(9) 15: 650, V, 40 ♂, showed twitching only when excited. His father had facial twitching at about 30 years and tremor developed in his hands before he died in advanced years. Of eight children of V, 40 ♂, five show tremors, some of long standing, which are confined to muscles on the left side of the face. One of these children, now 55 years old, has had the facial twitchings from as early an age as she can remember; it seems to grow no worse, except under the temporary stimulus of excitement. One sister has a twitching of the eyes only.

The foregoing examples, which might be multiplied, illustrate the fact that, in certain strains, the intensity of the tremors is always slight and, during decades, does not increase to an important degree. The progressive trait is not a universal feature of chronic chorea.

## D. THE ONSET OF THE DISEASE IS NOT ALWAYS LATE IN LIFE.

In contrast to the "classical" condition, chronic chorea sometimes first shows itself in early life. In our records are two cases in which the choreic movements were first noticed at birth and have continued to the present time. The disease has made its onset in one or more cases in every decade up to and including the eighth. In over a sixth of the cases the age of onset is at 20 years or under, much as in Sydenham's chorea. Over one-fourth of the recorded dates of onset fall in the fourth decade of life, and about one-fourth in the third and fifth decades, respectively, and the remainder in the sixth and later decades. Of greater importance is the fact that in different strains the age of onset differs. In the Fairfield County group the commonest age of onset is about 33 years; in the Suffolk County branch about 43 years. The foregoing facts show that even late age of onset is not a constant differential factor of chronic chorea.

## CONCLUSION.

All of the foregoing considerations pave the way for the conclusion which is patent to a student of the entire data; namely, that the symptomatology of chronic chorea is dissimilar in different strains or families. The age of onset, the degree of muscular involvement, the extent of mental deterioration all show family differences and enable us to recognize various species—or *biotypes*—of the disease. These biotypes are less striking than they would be were it not for the extensive hybridization that is taking place between biotypes in random human matings.

## 3. BIOTYPES OF CHOREA.

The proof of the existence of biotypes is found in those families which, in several members of a fraternity or in two or more generations, show a specific complex of symptoms. Examples of some of the principal biotypes in the families considered in this study are described below:

(a) S.-W. family complex. Chorea begins at about 35 years and develops rapidly, both as regards movements and mental deterioration. Of 18 affected individuals, six died in the poorhouse and one in prison. Death generally results early—at between 30 and 50 years (15: 438).

(b) J.-P. family. Onset late in life, 32 to 62 years. Tremors begin typically in the hands and eventually a fine tremor extends over the entire trunk; the mind is little affected. Several cases of "rheumatism" occur in this family. The age at death is between 50 and 80 years (15: 433-440).

(c) P.-S.-J. complex. Onset of the symptoms is between 40 and 50 years. The motor symptoms are usually relatively slight and the mental symptoms are characterized by irritability and emotional storms rather than by loss of orientation (15: 453-457).

(d) J.-S.-B. family complex is characterized by severe mental symptoms. Of 22 typical choreics, one is insane, five are epileptic, and one is a wanderer and bank robber. Of those persons who are not typically choreic, one is insane, one eccentric, one epileptic and three are feeble-minded. This is a long-lived strain (15: 463-470).

(e) M. family. In this family the onset is early in life, chiefly under 30 years. Choreic movements are most striking *in the head*—the choreics are here known as "head-nodders." Usually mental deterioration ensues with increased excitability (15: 488-490).

(f) P. family. Onset of the disease is late in life, usually after 40 or 50 years of age. Motions begin in the *upper extremities* and develop slowly; there is marked mental deterioration; death ensues at about 67 to 71 years of age (15: 516-519).

(g) S. family. This is a remarkable biotype. In generation IV the male parent showed a twitching of the facial muscles and later a tremor of the hands. His affected children (Gen. V) all had twitchings of the eyes and face, and some showed a tremor of the trunk. One, in particular (J. S.), showed facial twitchings only when excited. J. S. had 10 affected children (Gen. VI). They had tremors and twitchings, usually on the *left side of the face*, including usually the eyelid on both sides. The tremor is not progressive or at most only slowly, and mental symptoms are absent from all the 10 members of the complex who are affected by the chorea and from those also who are not affected by it (15: 649-652).

(h) S.-K.-F. family complex. Everyone of the six choreic individuals is highly neuropathic; five became insane and one is feeble-minded. Among those not affected with choreic movements, there is feeble-mindedness in five, insanity, eccentricity or religious mania in four others, and some literary and artistic ability (15: 655-656).

(i) R.-K.-M. family complex. Besides chorea there is a heavy incidence of deaths from meningitis (both infantile and adult), two cases of hydrocephalus, one spina bifida, spinal cord disease, progressive paralysis, and one case of epilepsy. There is in this family a remarkable weakness of the spinal cord and brain (15: 690-693).

(k) N.-H. family. Chorea is confined to the *upper part of the body* and the affected persons are popularly known as the "*H.-wrigglers*" (15: 586-589).

As several individuals (up to a dozen or more) in each family complex show the special symptoms indicated there is little doubt that we are dealing in each case with a distinct strain.

#### 4. INHERITANCE OF THE ELEMENTS OF CHRONIC CHOREA—CROSSING OF THE BIOTYPES.

We have seen reason for concluding that the four elements of "classic" cases of chronic chorea are not necessarily associated. It remains, then, to answer the question how that association is brought about in some cases. This involves a general study, to which we now turn, of the inheritance of the elements of chronic chorea.

##### A. HEREDITY OF LACK OF MUSCULAR CONTROL.

The earliest observers of chronic chorea have observed that it shows "*direct*" heredity, *i. e.*, *passes through the generations without a break and does not ordinarily appear in the children whose parents have been free from chorea unless those parents died before the age of incidence.* This conclusion our studies, in general, confirm. Naturally, it is not possible, ordinarily, to get any information as to the nervous condition of great-grandparents or earlier generations so that the trail cannot be carried far back; but where scores of choreics trace back to a single remote ancestor, the probability that this ancestor was at least a potential choreic amounts to a certainty. In some cases the chain is partly completed in the remoter ancestry by the history of a case of witchcraft. It is not strange that at a time when many nervous disorders were ascribed to witchcraft, it should be thought that a choreic was bewitched or even capable of bewitching others—especially her own children!

Now, while in an overwhelming proportion of cases a generation is not skipped, still there are a few cases where such a skipping seems to occur and these deserve special consideration. Aside from cases where the parent died young, we have nine.

(1) VII, 16 ♀, choreic, had a daughter (VIII, 32) who died between the ages of 40 and 50 without having showed any signs of nervousness. VIII, 32, married a man, who is probably a distant cousin and who bears the name of a choreic family of his native town, but who is undescribed. One of their two daughters is now 35 years of age and for the last few years has noticed tremors which increase under excitement; has had no children.

Comment: It is possible that the husband of VIII, 32, brought the choreic tendency to his daughter, but it is more likely that, since VIII, 32, died in middle life and the tremors are slight and

fairly late in appearing in this biotype, they were not yet evident at the time of her death.

(2) VII, 18 ♂, choreic, had a son, VIII, 34, of whom we know only that he was "neurotic." Of four of his children who grew up, two developed chorea; one at 60 years, one at 62 years, and one (who died at 69) at an unknown age.

Comment: Owing to absence of details, this case cannot be regarded as forming a real exception.

(3) VII, 47 ♀, choreic, had a daughter (VIII, 72) who is described as a neurasthenic, but she cannot be found and no details are available; her son, born 1866, is in a private institution with "multiple sclerosis" (probably chronic chorea) and "dementia." This began when he was about 40 years old.

Comment: Considering our ignorance of VIII, 72, and the difficulty of learning anything about this group, no stress can be laid on the absence of positive information as to chorea in VIII, 72.

(4) VII, 72 ♂, was choreic; about his son (VIII, 86), born 1800, we have no information, but this son had a daughter, IX, 118, born 1831, who "has always been nervous and excitable." She was living at the age of 80 years. Her husband was of a stock not known to be neurotic. Their son (X, 89), born 1865, is slightly feeble-minded, and "for the past five years has shown choreic movements which are increasing in intensity."

Comment: This looks like a clear case of a carrier of chorea who showed a choreic disposition but *not tremors*.

(5) VI, 132, had chorea; married a very able medical practitioner. They had several choreic children, but one of their children, VII, 200 ♀, was "not affected" at her death at 52 years. She married a man of high social position who was not choreic, but came of choreic stock, and of their seven children, three are known to have been choreic.

Comment: This case, also, lacks details, but if it is true that VII, 200, and her husband had no tremors, this case marks an exception.

(6) V, 88 ♀, born 1747, was choreic at her death in her 60th year. Her sons, VI, 130 (brother of VI, 132, in the last history), was a very successful medical practitioner. "There is no history of chorea, although he is spoken of as being excitable, nervous and domineering." His age at death is unknown and nothing is known about his wife, not even her name. He had a daughter (VII, 209) who was *very slightly* affected with chorea.

Comment: Again, we have a father of the choreic temperament; the daughter has very slight tremors; they may have gone

unnoticed in the father; moreover, we know nothing of his age at death.

(7) VI, 32 ♂, born 1809, was affected with chorea and became alcoholic before his death in 1865; he was so badly affected that he would fall out of his wagon. His son, VII, 56, born, 1847, is living at 66 years of age and is not choreic, but is alcoholic. He married a first cousin of the same choreic stock who died at the age of 46 years of tuberculosis without showing signs of chorea. One daughter became choreic at 30 years and grew rapidly worse until her death at 45 years.

Comment: If accurately reported this history seems to afford another exception.

(8) X, 182 ♀, is said to be "not affected," but she has a sister and a brother who are affected. She married a man about whom nothing is known, but whose name is not that of any of the choreic families studied. Their son has had nervous twitchings all his life.

Comment: If these nervous twitchings are choreic and the brief description of the mother is accepted, this case would seem to constitute an exception. The mother's age is unknown.

Thus, in five cases, on the face of the returns, we have choreic children from non-choreic parents. However, none of these exceptional cases is very perfectly known. In all cases one non-choreic parent belonged to choreic stock. There is nothing unexampled in the fact that a simplex carrier of a dominant trait should show that trait imperfectly or even, in rare cases, not in recognizable form. An exactly parallel case is that of the polydactyl condition that occasionally fails to dominate in poultry, guinea-pigs and man. The trait may be undeveloped though its determiners are present in half of the germ-cells carried by the parent.

#### B. HEREDITY OF "INSANITY" IN THE CHOREIC.

In any study of heredity of insanity in our families it becomes necessary first of all to inquire if there is any particular form of insanity associated with the chorea. Let us consider briefly the case, classifying them roughly.

##### *Manic-Depressive Group.*

This is far and away the commonest type of insanity that is associated with chorea, *i. e.*, loss of emotional control is a very

common accompaniment of chorea and is found in non-choreic close relatives of choreics.

To give in detail the picture of the behavior of these choreics who are also insane, a few cases are here reproduced:

15: 498a, G. P. ♂, was always nervous and excitable, but there were periods when he seemed relatively normal; at other times he had ideas of grandeur, thought himself superior to his family, would ride horseback in dangerous places to show his ability and once came near drowning himself, wife and boy by insisting on driving into a swollen stream from which he was rescued only by the intervention of a neighbor, and once he knocked iron pickets from a fence to show his strength. As the chorea developed, so did the mania and he was kept in a padded room for several years.

15: 519, M. P. ♀, was an unusually bright woman, active in church and social work. At 50 years she began to develop chorea and became melancholy and had periodic attacks of insanity until her death.

15: 559. Of the children of Sarah, choreic, and David, eccentric, one son was choreic and a religious crank in his younger days; and one brother (who was not choreic) thought he could walk on water, tried it and was drowned.

15: 681. As IV, 70, attained the age of 35 years, tremors developed; at 40 years he became irritable, made suicidal attempts, had hallucinations, fabricated, was apathetic and indifferent. A choreic brother committed suicide.

15: 541. A man who had early the respect of the community, was careful in dress and conduct, and was made principal of the school. When about 40 years of age he became irritable and moody; twitching began; he became indifferent, careless about appearance, his passions were beyond control, and his appetite so ravenous that, it is said, he ate refuse from the neighbor's barrels.

15: 442. G. P. was always eccentric. As chorea began to develop, he used to wander from home and became homicidal and suicidal; admitted to a state hospital he became more aggressive, finally had to be kept in his room; his mind eventually deteriorated.

We have seen that emotional disturbance is by no means a universal accompaniment of the tremors even at old age. Where it does occur in combination with the tremors it might be ascribed to the tremors; or the tremors might be ascribed to the mental deterioration, or they might be due to a common cause, and the latter seems, *a priori*, the more probable. But a study of the family history shows that the mental symptoms are most marked in, if not confined to, families with a tendency to manic-depressive and allied symptoms apart from chorea. Indeed, as some of the

elements of the behavior of the manic-depressive are due to impulses that have a *positive* hereditary basis—show “direct” or dominant heredity—we find the chorea and the impulses passing together down through the generations, but occasionally the one trait is found without the other in certain members of a fraternity.

For example at 15: 655, V, 46 ♂, choreic, had two sons and a daughter. The elder son was choreic and developed *religious mania*. By a cousin, he had six children; one only was choreic and he had a tendency to suicide; a brother was a horse thief; another has attacks of *religious mania* during which he is licentious and alcoholic, and another, though nervous, is doing fairly well; of the sisters one shows strong manic-depressive symptoms and is garrulous, and one was very clever and somewhat neurotic.

The second son was not choreic, but was eccentric and has a non-choreic daughter who is very peculiar, writes poetry for which she can find no publisher and talks continually about and brags of her authorship.

The only daughter of V, 46, born 1816, was not choreic and married a non-choreic. We do not know about her behavior, but she had a son who was queer and mean, and very close in business transactions, and a daughter who was always counted eccentric, married and had two children, one called odd by the neighbors and one who developed a *religious mania* during the menopause. In this family the religious mania is attached once to a choreic and we might think it causally connected, especially as we have several instances of religious mania and chorea, but it occurs twice in persons who, though they attained choreic age, never showed the motor symptoms.

Another instance, at 15: 519, we learn of a woman, IX, 268, who was unusually bright and active in church and social work until the menopause when chorea developed and also a melancholia which came in periodic attacks until her death. Two of her three daughters also developed manic-depressive insanity at or about the menopause, one was also choreic, the other non-choreic.

Again, at 15: 498, we have the case of a man (VII, 177) who had a periodic insanity with his chorea. He married a woman who had epileptic attacks from childhood. Of their children, three

sons and three daughters matured. Of the sons, one developed chorea in a slight form at the age of 35 years; he, also, in later life, lost emotional control. By a normal woman he had a daughter who, at about 45 years, shows no chorea, but is excitable, very emotional, liable to fits of anger. Now these symptoms might be regarded as prognostic of chorea later on, or as the "equivalents" of chorea. But I have records of dozens of families which are untouched by chorea, but in which such emotional symptoms run through three generations as they do in this family. A daughter of VI, 177, has chorea and is a recluse, but she has a sister and a brother who have no chorea and are also recluses of exactly the same type.

Such examples might be multiplied, but these must suffice to make it clear that the manic-depressive behavior is not unnecessarily causally connected with the chorea. It seems probable that there is a relation, however, namely, that in *highly emotional strains* the loss of inhibition of the muscular centers may extend to the feebly developed centers of the emotional inhibition.

It is to be noted that in such an emotional and choreic strain mating into a normal, controlled biotype does not bring control to all of the offspring in the emotional any more than the muscular sphere; for lack of inhibitions in both spheres is a dominant trait and is perpetuated by *direct* heredity.

#### *Demented Group.*

Sometimes, the chorea passes rapidly into dementia without showing manic-depressive symptoms. In these cases the victim is frequently well advanced in years at the onset of the chorea and as it progresses senile dementia sets in. A loss of memory is especially referred to, and it seems to be one of the first symptoms of the oncoming dementia.

#### C. THE INHERITANCE OF AGE OF ONSET.

It has been asserted for Huntington's chorea, as indeed for many other pathological and teratological conditions, that the age at onset tends to recur in each generation at an earlier age than in the one preceding (Heilbronner, 1903). There are two ways in which this matter may be tested. We may either take the average age of onset in the first available generation, the second, third

and so forth or we may compare the actual age at onset of the affected persons of a fraternity, of their affected parent, and grandparent.

By applying the first method of mass study of the generations, we get the result shown in Table A. This table shows that the average age at onset is, in the first generation, 40.5 years; in the second, 36.4 years; in the third, 31.5 years.

TABLE A.  
GENERATION.

Age of Onset.	I.	II.	III.	IV.	Total.
0-9	..	2	1	..	3
10-19	..	1	0	1	2
20-29	3	13	0	..	16
30-39	27	17	6	..	50
40-49	14	19	2	..	35
50-59	14	11	0	..	25
60-69	4	3	..	..	7
Total.....	62	66	9	1	138
Average age*	40.5	36.4	31.5	(19)	37.8

\* The average is calculated from the original data.

There is only one case in the fourth generation and that is at 19 years. Here we see plainly the phenomenon of anticipation.

The interpretation of the facts is quite another and far more different thing than gaining them. One cannot properly compare the average age at onset of the various generations because the individual data are not comparable for the different generations. Of the first generation only those who became progenitors are known; in the second generation some who never became progenitors are included—and some at least were selected against as progenitors because of early onset of the disease. Thus, one-quarter of the second generation showed the tremor *before they were 30*, while in the first generation (of progenitors!) only one in 20 did so. The results in the third generations are less numerous, but in this generation there is doubtless included a still larger proportion of non-progenitors. In other words the earlier generations are selected for the more advanced age of onset and so they show this advanced age; the later generations are less rigidly

selected and so they do not show so advanced an age at onset of the disease.

This hypothesis may be tested by comparing the age at onset of certain adult individuals, their affected parents and grandparents. In this case the parent and grandparent are comparable, belonging to the class of progenitors. The individuals of the first column were selected as having parents and grandparents whose "age of onset" is known (Table B). The result is that in only three cases out of eight is the age of onset different in parent and grandparent, and in these three cases (really only two distinct cases) the parent is five years older at age of onset than the grandparent; also the age of the "individual" is usually remarkably like that of parent and grandparent, differing by more than two years in only two cases, in both of which it is lower. These cases tend to lower slightly the average age at onset of the "individual" nearly to 35.5 years as opposed to the parents 38.8 years or the grandparental 36.9 years. But this difference is a trivial and doubtless wholly chance one. There is thus no good evidence that the age of onset of the choreic movements tends to occur earlier in the later generations.

TABLE B.  
TABLE OF ACTUAL AGE OF ONSET IN AN INDIVIDUAL (INDIV.) AND HIS  
AFFECTED PARENT AND GRANDPARENT.

Reference.	Indiv.	Parent.	Grandparent.
M. VIII, 74; IX, 77, X, 51 .....	37	50	50
VII, 188; VIII, 196 .....	30	40	35
VI, 130; VII, 188; VIII, 119 .....	40	40	35
VI, 130; VII, 188; VIII, 199 .....	40	40	35
.....	30	30	30
.....	30	30	30
.....	38	40	40
.....	39	40	40
Average age.....	35.5	38.8	36.9

##### 5. TRAITS ASSOCIATED IN THE FAMILY WITH CHRONIC CHOREA.

As a nervous disease it would not be surprising to find chronic chorea associated with other nervous troubles in the 3000-odd relatives of the 962 choreics included in this study. And we do

find them in a frequency which is striking and probably greater than that of the population at large. Thus, epilepsy is recorded 39 times, infantile convulsions 19 times, meningeal inflammations 47 times, hydrocephaly 41 times, brain fever four times. Feeble-mindedness of all grades is recorded 73 times, Sydenham's chorea 11 times, and tics in nine cases, mostly in one small family. These statistics support the view which has been drawn in the section dealing with crossing of the biotypes that chorea develops chiefly in certain strains characterized by general nervousness and liability to a great variety of mental troubles.

#### 6. JUVENILE TRAITS OF EVENTUAL CHOREICS.

One great difficulty of practical eugenics in chronic families lies in the fact that marriage usually occurs before the age of onset of the tremors and, since usually only half of the children of a choreic parent are choreic, a child of such a parent may frequently undertake to run the chance (one to one) that he may be an immune child. Practically, therefore, it is of great importance to inquire whether there are any symptoms that will enable one to judge, 10 or 20 years before the usual age of incidence, which of a number of brothers and sisters are liable to be immune from the disease.

A consideration of all cases warrants the conclusion that there is no universal premonitory symptom. Indeed, we have clear testimony that some choreics have, when young, been always cheerful, bright, unselfish, considerate, and upon the onset of the disease become irritable, exciting, faultfinding (15: 456); again, at 50, as the tremors commenced a decided change has occurred in the disposition which now, for the first time, becomes irritable and aggressive (513, 624). On the other hand it is much more common to find a personal history of early irritability and (15: 502, 521, 528, 624, 694) nervous and excitable disposition (15: 438, 498, 514, 515, 537, 639, 685, 688, 692). Increasing irritability, insomnia, malaise are especially apt to be immediate precursors of an outbreak. It is not to be forgotten, however, that the nervous condition is frequently found in brothers and sisters who do not develop chorea, so here, again, the differential value of this symptom is lessened. We may conclude then that there is no

universal criterion that can be applied at the ages of 20 to 25 of eventual chorea. One must examine each family history by itself.

In a family characterized by irritability preceding onset of the disease, the gradual or sudden appearance of this symptom some years before the usual age of onset should discourage marriage; while the absence of excitability, irritability, restlessness or insomnia up to the age of 36 or 40 may usually be considered permissive—excepting in the most phlegmatic strains—of marriage; and at these ages it is still possible to have a number of children.

That the widespread knowledge that chorea is inheritable has not been sufficient to deter persons from marriage into the affected stock is partly due to the strength of the genetic impulse and partly to a failure to appreciate that marriage is not solely an affair between two individuals, but means *children*, and the duty of parents to provide them with the best heritage. The failure to appreciate and act upon this view is well illustrated by the following history:

When Emma T. wished to marry Jesse H., whose mother was choreic, her parents opposed the match on account of the heredity of chorea which was even then (1800) recognized. It is said that she replied to their arguments that Jesse was not affected and that she loved him so much that she would marry him if he were, so that she might care for him. She had to care not only for him, but also for *four affected children*.

#### 7. GENIUS IN FAMILIES WITH CHRONIC CHOREA.

Our family histories contain a surprisingly large number of effective men and women who have done important work in the world. This may be merely because our study has been made on three or four high-class families. It does not prove that incipient chronic chorea induces effectiveness; but there may be some justification for the hypothesis that the manic symptoms so often found in our histories are associated with such productiveness. Our records of choreic families include five legislators, one judge, two university professors, two ministers, one eminent surgeon, three authors, two mechanical geniuses and two organizers of public institutions. Some of these actually developed chorea in later life, while some did not, but had close relatives who did; also the facts as to personal chorea are unknown in one or two cases.

## 8. CHOREA AND MARRIAGE SELECTION.

In order to learn whether the fact of the hereditary nature of chronic chorea is influencing the marriage rate in recent years (or rather the proportion of those married in any generation), a table was made of all full fraternities in generations VI to X, inclusive, in which all members had reached the age of 30. In this table the proportion of all who had not married was found for each generation. The results are summarized in Table C.

TABLE C.  
SHOWING THE PERCENTAGE OF UNMARRIED IN EACH GENERATION, FROM THE 6TH TO THE 10TH, FOR THE THREE MAIN FAMILIES INCLUDED IN THIS STUDY.

Generation.	Gen. VI.		Gen. VII.		Gen. VIII.		Gen. IX.		Gen. X.	
	Per cent.	No. of frat's.	Per cent.	No. of frat's.	Per cent.	No. of frat's.	Per cent.	No. of frat's.	Per cent.	No. of frat's.
P branch.....	13.0	8	25.5	14	26.5	24	29.3	27	28.1	11
F branch.....	10.0	7	22.7	14	20.0	12	36.3	5	....	....
L branch.....	22.5	9	15.9	14	18.3	18	26.3	12	....	....

The table entries are: first, the percentage; and, second, the number of fraternities upon which the percentage is based.

According to this table the proportion of unmarried has tended on the whole to increase from the earlier to the later generation from about one-seventh to about one-third of the members of a fraternity; in other words, the proportion of the unmarried has about doubled. Generation VI in the L branch is exceptional.

It is difficult to interpret this result, like statistical results in general. The following causes are probably involved:

1. A smaller percentage of the unmarried of the earlier generation is recalled and get recorded, just because they were not progenitors.
2. A larger percentage of the latest generation is unmarried because a larger proportion of them are yet to get married.
3. If, as seems after all probable, there is an increasing proportion of unmarried in later generations, this may accord merely with the increase of the adult single in the whole population and be due to other motives than the eugenical one.
4. Finally, it is possible that there is now a greater selection against marriage of persons belonging to choreic strains than

formerly, or voluntary abstinence is greater. This conclusion cannot be said to be demonstrated by the statistics, in view of the number of unknown factors. Dr. Muncey found more than one present-day woman who had refrained from marrying because of the family taint. On the other hand, within a year or two, has occurred the marriage of a child whose parents were cousins and both already choreic. So it has to be admitted that chorea is dying out very slowly, if at all, through being selected against in marriage.

#### 9. SOCIAL BEARINGS OF HUNTINGTON'S CHOREA.

A striking characteristic of chorea is the loss of emotional control that it entails upon its victims. This shows itself above all in two points: a craving for narcotics and a suicidal tendency. There are 35 alcoholics noted among the choreics and two addicted to other drugs.

The following testimony bears upon the causes of some of this alcoholism:

Richard A. has had choreic movements for the past 10 years; they have developed gradually. He takes alcohol to "steady his nerves"; he can get around much better when stimulated. His brother, George, has developed chorea within the last two years, the movements are not yet very pronounced, but they are unmistakable. He drinks alcoholics to lessen the tremor.

Of suicide and of suicidal attempts, the history of chorea is full. There are 20 cases in our records. The forms that the impulse assumes are various; jumped from window (446); drowned himself in lake (523, 574); shot himself (598).

A loss of control of the sex-impulse is marked. This is most striking where a man of unimpeachable conduct and high social standing, after the onset of the chorea, suddenly shows uninhibited sex-impulses.

Elizabeth A. was choreic at 35 years of age; her motor control and her mental functions rapidly deteriorated, and she died at 45 years. She had four children; all choreic. The eldest sister attempted suicide and became greatly depressed as her chorea developed. The second sister began to show sexually immoral tendencies from 20, developed forced movements at 30, and lost all

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modesty at 50. The third sister became grossly immoral at 40. The last, a brother, showed mental symptoms at 22 years, and became a pyromaniac.

A cousin of the preceding, a full professor in one of our leading universities, at the age of about 45 years, became enamoured of various women and sometimes left his family to go with one of them. The motor symptoms and mental deterioration of chorea have since developed.

A man of highest standing in the community, deacon in the church of which his grandfather was pastor, began to show choreic symptoms years ago, a licentious tendency developed and he is known to be the father of several illegitimate children.

A son of a leading physician, a man of wealth and education, but the husband of a choreic woman, developed chorea at an early age. He was impelled to drink; would wander through the streets at all hours of the night, every sense of decency gone. He acquired venereal disease and died from orchitis.

A member of a leading family of the community, in his youth greatly respected, after the onset of chorea became licentious and indifferent to public opinion. His illegitimate son, Henry, when young had the respect of the community. He was made principal of the local school and was of exemplary conduct. At 40 years chorea developed. He became indifferent and careless about appearances, passionate beyond control. He would go around to the neighbors' refuse barrels and eat the contents.

In all these cases the specific behavior doubtless has an hereditary basis. The chorea is accompanied by loss of emotional control, or it may be that in these strains the emotional control is especially slight at the start.

Perhaps the foregoing will suffice to show the heavy social burdens entailed by chorea. These 900-odd choreics were not only, for the most part, rendered ineffective, but they soon became a burden upon their unaffected relatives and in numerous instances upon the state. Scores of individuals of these families have become inmates of state hospitals during a total of thousands of years. Families have been broken up, children left nearly destitute and ashamed, and the dread of a terrible disease has hung over scores of families.

All these evils in our study trace back to some half-dozen individuals, including three brothers, who migrated to this country during the 17th century. Had these half-dozen individuals been kept out of this country much of misery might have been saved.

These half-dozen immigrants are not the only ancestral sources of Huntington's chorea in the United States to-day. From the records of hospitals it is clear that new choreic stock has come in with the immense immigration of recent years. It requires little imagination to picture what the consequences of this new blood—these new centers of weakness—will mean to the population of this country three or four generations hence. It would be a work of far-seeing philanthropy to sterilize all those in which chronic chorea has already developed and to secure that such of their offspring as show prematurely its symptoms shall not reproduce. It is for the state to investigate every case of Huntington's chorea that appears and to concern itself with all of the progeny of such. That is the least the state can do to fulfil its duty toward the as yet unborn. A state that knows who are its choreics and knows that half of the children of every one of such will (on the average) become choreic and does not do the obvious thing to prevent the spread of this dire inheritable disease is impotent, stupid and blind and invites disaster. We think only of personal liberty and forget the rights and liberties of the unborn, of whom the state is the sole protector. Unfortunate the nation when the state declines to fulfil this duty!

To prevent new centers of chorea from entering the country through immigration, we return to the obvious and entirely feasible method of knowing what the parents and grandparents of our immigrants died of, if dead, or what diseases they are liable to, if still living. The writer has often insisted on the duty of the nation to know something of the blood lines of its imported human stock, as it does of its imported cattle. Had it been known that one parent of the three brothers who came in the 17th century from England was choreic, and had they been excluded on that account, we should have lost two leading educators, a surgeon or two, two state senators, two or three state assembly men and several ministers and 900 cases of one of the most dreadful diseases that man is liable to, that does not kill quickly like cancer, or lead rapidly to complete helplessness like paresis, but produces indi-

viduals who for half a century may know no waking hour free from forced movements often of a violent character, and in whom often the mental functions, one by one, deteriorate.

#### 10. BEHAVIOR AND RESPONSIBILITY.

The history of these cases of Huntington's chorea well illustrate the principal that behavior—the reaction to a stimulus—depends upon the nature of the reacting organism; and that there is now no more sense in blaming a person who reacts non-socially than there is for *blaming* an automobile that will not go. The world-renowned college professor received the plaudits of the multitude while his mental machinery was behaving normally. When profound disturbance developed, owing to innate defects in his organism so that his reactions were no longer typical, the often shallow-pated youths who write up "stories" for the metropolitan dailies began to hold up for the use of scandal-mongers the details of this "bad" reaction. The scandal-mongers talked it over with implications that the victim, free to react in either a normal or an abnormal fashion, had decided on account of a suddenly acquired "will to be bad," to react in abnormal fashion and so the details of his conduct were held up to social obloquy. Yet the fact is that he was now as impotent to inhibit completely his erotic impulses, which he has in common with "all men," as to inhibit the tremors of his hands.

#### 11. SOURCES OF AMERICAN COLONIAL CHOREA.

Our study indicates that among the original immigrants who carried the tendency to chorea were three brothers, all of whom settled in New Haven.

Two others, brothers of different name, who settled at East Hampton, are not known to have carried chorea, but the most probable hypothesis is that each did; because from each, in two and four generations, respectively, we find choreic descendants.

Two daughters and a son of another immigrant, J. F., who came to Greenwich, had, in four or five generations, known choreic descendants and this favors the hypothesis that the original immigrant carried the trait in his germ plasm.

Another probable source of chorea was the immigrant W. W. who came to America in 1635 and was one of the founders of

Southold, Long Island. He married a Southold woman and had four children, of whom at least three had known choreic descendants within three or four generations. So it seems probable that this man also brought in the choreic trait.

Thus, we have to recognize four distinct families with chorea among the early immigrants. It does not follow that they were not related. Those best acquainted with the immigration of the early 17th century to Salem and Boston know that it was largely from the east coast of England around the English towns of Boston and Stamford; and these families may have been closely allied—derived only a few generations back from a common ancestor.

## 12. TRAIT AND SURNAME.

We often speak of family traits as though a given hereditary trait had some necessary or constant connection with a family name. But a study of our histories lends no support to this view. As one looks over the surnames of the choreics in the towns of Stamford and Greenwich during the past two centuries, one finds nearly all of the family names of the older and larger families. Sometimes the trait enters by marriage into connection with a new family name and after a generation or two ceases to be connected with it through the failure of affected individuals to reproduce.

As an example, take the surname Davenport, which was quite widely suffused through the town of Stamford. Two centuries ago a woman bearing the same surname as one of the immigrants, whose germ plasm carried the determiner for chorea, married and had a choreic daughter who married a Mr. Young. One of their choreic daughters married a Davenport. There were five children. Two died young; one, a woman, married a Mr. J—n and her later history is unknown; one man was normal and one was choreic, but died, so far as known, childless. Thus, the surname and the trait became dissociated again. It is unfortunate that we tend so readily to associate a surname with a trait, bad or good, and thus to handicap it unduly; or, on the other hand, yield to it a confidence that is not warranted. In marriage selection nothing can take the place of a careful consideration of the probable germ-plasmic content of the two persons involved.

## 13. THE TRAIT AND THE PLACE.

The cases of Huntington's chorea that we have been considering are not scattered at haphazard over the country. On the contrary about three-fourths of them were born in the adjacent counties of Fairfield, Conn., and Westchester, N. Y.; and in Suffolk County, Long Island. A group occurs in New Haven County and another in eastern Massachusetts. The reason why these places are such centers of incidence of chorea is simply because persons with choreic "blood" early settled in these places and left their descendants and their blood traits there. Whenever one of the members of one of these strains settled in a new locality that locality has tended to be a new focus of chorea (see map, pp. 220-221).

The cases considered in this study center about four main foci and their derivatives. The first is the Stamford-Greenwich-Bedford center lying in Fairfield County, Connecticut and Westchester County, N. Y.; the second is central Connecticut; the third is at the east end of Long Island around either Southampton or Greenport; and the fourth is at Branford, Conn. From these centers persons have gone forth and started colonies in distant places. From the Fairfield and Westchester County center choreic persons have gone to New York City, to central New York State, to Ohio, to Kansas, to Oregon, to Canada. From central Connecticut they have gone to Long Island, to Sullivan County, N. Y., to Burlington, Vt., to Ohio, to Joliet, Illinois, to Rehoboth, Mass., to New Brunswick, N. J. From the east end of Long Island they have gone to the central and western part of the island, to Elizabeth and to Chester, N. J., to Plattsburg and Elmira, N. Y., to Darion, Conn., to Montgomery and Chester County, to Catowissa and to Lurayville, Pa., to Brattleboro, Vt., to Chicago and other parts of Illinois, to Gilman, Iowa, to Winona, Wisc., to Stormsburg, Nebraska, to Oregon and to California. And in so far as these choreics have reproduced in these places they have started new centers of chorea heredity there.

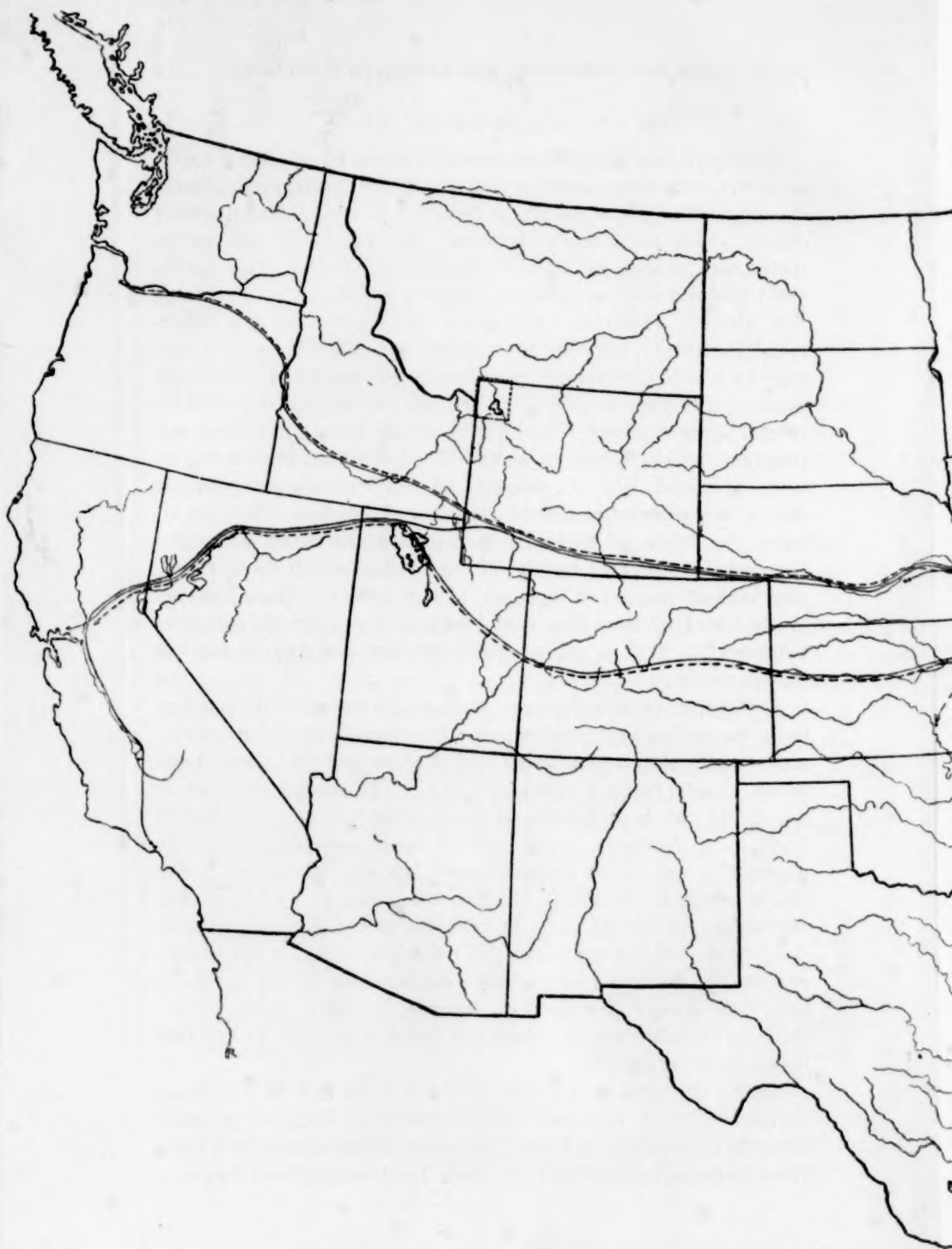
The accompanying map shows the main centers of chorea in the past and indicates the course of some of the principal migrations of those who carried the liability to it in their germ plasm.

## 14. SUMMARY.

A study of four family complexes in eastern Long Island, southwestern Connecticut, south-central Connecticut and eastern Massachusetts which show nearly a thousand cases of Huntington's chorea yields the remarkable result that practically all can be traced back to some half-dozen individuals, including three (probable) brothers who migrated to America during the 17th century. But, already, numerous "biotypes" having specific and differential hereditary behavior have appeared. Thus there is a biotype in which the tremors are absent, but mental deterioration present; a biotype in which the tremors are not accompanied by mental deterioration; a biotype in which the chorea does not progress; and a biotype in which the onset of the choreic movements is in early life. In general, the symptomatology of chronic chorea is dissimilar in different strains of families. The age of onset, the degree of muscular involvement, the extent of mental deterioration all show family differences and enable us to recognize various species, or biotypes, of the disease. These biotypes are less striking than they would be were it not for the extensive hybridization that is taking place between biotypes in random human matings.

The method of inheritance of some of the elements of Huntington's chorea has been worked out. In general, the choreic movements never skip a generation and in other respects show themselves clearly to be a dominant trait. The mental disorder is usually of the hyperkinetic or manic type and this also shows itself as a dominant. The age of onset *apparently* tends to diminish in successive generations—"law of anticipation"—but this is partly, if not wholly, illusory and is due to the fact that in comparing the age of onset in grandfathers with that in grandchildren we are not comparing on the same basis, for the grandparents are a selected lot (selected on the basis of late onset—at least late enough for them to become parents), while grandchildren include those in whom the onset is so early in life that they will never marry.

Among the 3000-odd relatives of the 962 choreics studied, many nervous traits are recorded. Thus, epilepsy is recorded 39 times, infantile convulsions 19 times, meningeal inflammations and brain fever 51 times, hydrocephaly 41 times, feeble-mindedness 72 times,



MAP OF UNITED STATES SHOWING MIGRATIONS OF THREE CHOREIC STRAINS



C STRAINS FROM ABOUT LONG ISLAND SOUND TO OTHER PARTS OF THE COUNTRY.

Sydenham's chorea 11 times, and tics 9 times, mostly in one small family. This incidence, which would seem high for an unselected population, suggests that chorea occurs in families characterized by a general liability to nervous and mental troubles.

Though it can be shown that the 962 cases of chorea originated from six or seven ancestors and that the tendency has been handed down almost without a break through the generations and that for generations there have been individuals who recognized the hereditary nature of the disease and were influenced in marriage accordingly; nevertheless, there is no clear evidence that persons belonging to the choreic lines voluntarily abstain to any marked degree from, or are selected against, in marriage.

## ENVIRONMENTAL ORIGIN OF MENTAL DISEASE IN CERTAIN FAMILIES.\*

By L. VERNON BRIGGS, M. D.,

*Secretary of the Massachusetts State Board of Insanity.*

I find that there is a deep-seated idea among the general public that most insanity is hereditary and, therefore, inevitable; but it seems to me that many members of our profession are only too prone to accept this hypothesis upon insufficient evidence. How little we know, after all, of the real causes of mental disease, with the possible exception of general paralysis! We find mental disease common in certain families, and nine times out of ten we jump to the conclusion that "heredity" is the predisposing cause. Have we any real scientific basis for such an assumption? What have we done, for instance, in the pathology of mental disease, other than general paralysis, to warrant us in excluding the germ theory? Who has made a thorough, scientific study of any large groups of families where two or more members are known to be insane? What do we know of the origin of the initial cases in these families? And what were the predisposing causes in these initial cases—such as alcoholism, environment, or mental suggestion?

I have long desired to make such a study, and with this object in view have collected a mass of statistics from our various Massachusetts state hospitals, which I offer as merely suggestive to the unprejudiced mind of the vast possibilities in the causation of insanity in these family cases.

It is my hope in the course of time to make an intensive study of the more significant of these families, with the various possibilities in mind, to learn their histories, past and present, their environment, the characteristics of the normal as well as the abnormal members of these families, and of the possible suggestive results of one case in the family. I feel that such studies must be conclusively carried out before we have a right to make so free with that very convenient but damnable word, "heredity."

\*Read at the seventy-second annual meeting of the American Medico-Psychological Association, New Orleans, La., April 4-7, 1916.

These data are offered for what they are worth. Family histories in all instances are incomplete, and in few, if any, cases have they been verified, but I consider them quite as conclusive from the point of view of environment or mental suggestion as from that of heredity. I have taken all cases of insanity in families as submitted, and classified them without selection.

The data presented represent figures from Massachusetts state hospitals. One is a miscellaneous group, taken from the following hospitals:

Boston State Hospital,	Monson State Hospital,
Bridgewater State Hospital,	State Infirmary, Tewksbury,
Danvers State Hospital,	Westborough State Hospital,
Gardner State Colony,	Worcester State Hospital.
Medfield State Hospital,	

which are the cases presented in the first column.

In the second column from this miscellaneous group are cases reported by the Northampton State Hospital, and the third column represents those cases taken from the Wrentham State School for the Feeble-minded.

Because of the different viewpoints of the various collaborators in this work, it has been deemed necessary to give the data in these groups separately.

	Nine Hospitals.	Northampton.	Wrentham.	Total.
Sisters (see also Mother-daughter).....	29	16	23	68
Brothers (see also Mother-son-daughter).....	22	23	10	55
Brothers-sisters (see also Mother-son-daughter)	31	32	18	81
Husband-wife .....	†5	*1	—	6+2
	+2			
Mother-daughter .....	16	18	—	34
Mother-son-daughter .....	2	—	—	3
Mother-son (see also Husband-wife; Mother- son-daughter) .....	13	10	—	23
Father-son (see also Husband-wife).....	10	14	—	24
Father-daughter .....	5	3	—	8
	134	117	51	302
	+2			+2

\* Mentioned incidentally in history of another case.

† +2 Incidentally mentioned in Worcester single cases.

The figures from Taunton State Hospital, representing a study carried on for a very much longer period of time than has been the case in the figures presented by the other hospitals, have been analyzed according to

(1) The generations represented.

(2) The type of relationship represented and according to sex. Further, the data have been analyzed with regard to the question of anticipation or antedating, *i. e.*, to discover whether or not the tendency was for a descendant to succumb to mental disease at an earlier age than the ancestor. The following figures, then, present these data:

#### TWO GENERATIONS.

##### FATHER AND DESCENDANTS.

Fathers .....	86	Sons .....	45	Daughters .....	47
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##### MOTHER AND DESCENDANTS.

Mothers .....	106	Sons .....	55	Daughters .....	75
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##### UNCLE AND DESCENDANTS.

Uncles .....	47	Nephews .....	32	Nieces .....	21
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##### AUNT AND DESCENDANTS.

Aunts .....	53	Nephews .....	33	Nieces .....	28
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##### MIXED. (Direct and Collateral Ancestors.)

Males .....	61	Females .....	54
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#### ONE GENERATION.

##### SIBLINGS.

No. of groups.....	247		
Males .....	236	Females .....	285

##### COLLATERALS. (Cousins.)

No. of groups.....	54		
Males .....	65	Females .....	46

##### MIXED. (Siblings and Cousins.)

No. of groups.....	8		
Males .....	8	Females .....	24

##### MAN AND WIFE.

No. of couples.....	36
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## ACCORDING TO GENERATIONS.

1	4 generation family.
22	3 generation families.
333	2 generation families.
189	direct relationship.
112	collateral relationship.
32	mixed (direct and collateral).
307	1 generation families divided as follows:
<hr/>	
Total, 663	
247	sibling families.
51	collateral families.
32	mixed (siblings and collaterals).

## ANALYZED BY BLOOD RELATIONSHIP.

It will be obvious that the man who is represented as the father in a father-son combination may appear in this group as the uncle in an uncle-nephew combination. In other words, numerically this analysis does not correspond to the total number of cases.

Total females .....	789
Total males .....	719
Father-daughter groups .....	59
Father-son groups .....	55
Mother-daughter groups .....	80
Mother-son groups .....	56
Uncle-niece groups .....	37
Uncle-nephew groups .....	41
Aunt-niece groups .....	42
Aunt-nephew groups .....	43
Brothers alone groups .....	65
Sisters alone groups .....	90
Brother-sister groups .....	166
Husband-wife groups .....	36
Cousinship .....	73

Upon analysis we find

Mother-daughter groups greater than father-daughters.  
 Mother-son groups about equal to father-son.  
 Aunt-nephew groups greater than uncle-nephew.  
 Aunt-niece groups greater than uncle-niece.  
 Sister groups greater than brother groups.  
 Brother-sister groups greater than brother groups or sister groups.  
 Total females greater than total males.

## DATA AS TO ANTICIPATION.

These data are not complete, *i. e.*, they do not concern the total number of cases involved. The reasons for this will be obvious to any one who has attempted to analyze old records—many of them are defective and many ambiguous, so that it was deemed wiser to omit in many cases such groups where the figures were not clear.

Further, in many cases the figures here presented are probably inaccurate, *i. e.*, they do not represent the actual age at onset of either ancestor or descendant.

No three-generation families have been analyzed, as the problem here became more complex than could at present be easily handled.

## FATHERS AND DESCENDANTS.

A. *Ancestor older than descendant* at age of onset.....67 cases.

1. Difference of 25 years and over between onset of psychosis in father and descendant.

33 families—18 sons, 17 daughters.

Ancestor between 30 and 40—none.

"	"	40	"	50—7 cases, 27 yrs. average dif.			
"	"	50	"	60—8 cases, 33	"	"	"
"	"	60	"	70—12 cases, 39	"	"	"
"	"	70	"	80—2 cases, 32	"	"	"
"	"	80	"	90—4 cases, 50	"	"	"

2. Difference of 20 to 30 years between ages of onset.

11 families—5 sons, 6 daughters.

Ancestor between 30 and 40—1 case.

"	"	40	"	50—5 cases.			
"	"	50	"	60—2 cases.			
"	"	60	"	70—1 case.			
"	"	70	"	80—2 cases.			

3. Difference of 15 to 20 years between ages of onset.

7 families—5 sons, 5 daughters.

Ancestor between 30 and 40—2 cases.

"	"	40	"	50—3 cases.			
"	"	60	"	70—2 cases.			

## 4. Difference of 5 to 15 years between ages of onset.

14 families—9 sons, 5 daughters.

Ancestor between 20 and 30—1 case.

"	"	30	"	40—3 cases.
"	"	40	"	50—5 cases.
"	"	50	"	60—1 case.
"	"	60	"	70—2 cases.
"	"	70	"	80—2 cases.

## 5. Difference of 0 to 5 years between ages of onset.

2 cases—I son, 1 daughter.

Ancestor between 40 and 50—1 case.

"	"	50	"	60—1 case.
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## B. Descendant older than ancestor at age of onset.....12 cases.

## 1. Difference of 0 to 5 years between ages of onset.

8 cases—4 sons, 4 daughters.

Ancestor between 20 and 30—2 cases.

"	"	30	"	40—2 cases.
"	"	40	"	50—4 cases.

## 2. Difference of 5 to 10 years between ages of onset.

2 cases.

Ancestor between 50 and 60—1 case.

"	"	60	"	70—1 case.
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## 3. Difference of 15 to 20 years between ages of onset.

1 case—I daughter.

Ancestor between 20 and 30—1 case.

## 4. Difference of 25 years and over between ages of onset.

1 case—I daughter, 30 yrs. average dif.

*Father older than descendant is to the reverse as 67 is to 12.*

## MOTHERS AND DESCENDANTS.

## A. Ancestor older than descendant at age of onset.....76 cases.

## 1. Difference of 25 years and over between ages of onset of psychosis in mother and descendant.

30 cases—21 daughters, 18 sons.

Ancestor between 30 and 40— 3 cases, 30 yrs. average dif.

"	"	40	"	50— 4 cases, 29	"	"	"
"	"	50	"	60— 8 cases, 30	"	"	"
"	"	60	"	70—10 cases, 34	"	"	"
"	"	70	"	80— 5 cases, 36	"	"	"

2. Difference of 20 to 25 years between ages of onset.

13 cases—10 sons, 9 daughters.

Ancestor between 20 and 30—1 case.

"	"	30	"	40—1 case.
"	"	40	"	50—5 cases.
"	"	50	"	60—5 cases.
"	"	60	"	70—1 case.
"	"	70	"	80—1 case.

3. Difference of 15 to 20 years between ages of onset.

17 cases—11 daughters, 9 sons.

Ancestor between 20 and 30—1 case.

"	"	30	"	40—2 cases.
"	"	40	"	50—7 cases.
"	"	50	"	60—4 cases.
"	"	60	"	70—2 cases.
"	"	70	"	80—1 case.

4. Difference of 5 to 15 years between ages of onset.

11 cases.

Ancestor between 20 and 30—1 case.

"	"	30	"	40—3 cases.
"	"	40	"	50—3 cases.
"	"	50	"	60—3 cases.
"	"	60	"	70—1 case.

5. Difference of 0 to 5 years between ages of onset.

5 cases—5 sons, 1 daughter.

Ancestor between 30 and 40—4 cases.

"	"	50	"	60—1 case.
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6. Five families—13 members, 5 groups.

Where all the members are about the same age.

B. Descendant older than ancestor at age of onset.....11 cases.

## 1. Difference of 0 to 5 years between ages of onset.

3 cases—3 daughters.

Ancestor between 20 and 30.

## 2. Difference of 5 to 10 years between ages of onset.

4 cases—4 daughters.

Ancestor between 20 and 30—2 cases.

" " 30 " 40—2 cases.

## 3. Difference of 10 to 15 years between ages of onset.

4 cases—1 son, 3 daughters.

Ancestor between 20 and 30—2 cases.

" around 40 —2 cases.

90 cases.

*Mother older than descendant is to the reverse as 76 is to 11.*

## UNCLES AND DESCENDANTS.

## A. Ancestor older than descendant at age of onset.....39 cases.

## 1. Difference of 25 years and over between ages of onset of psychosis in uncle and descendant.

13 cases—9 nephews, 5 nieces.

Ancestor between 40 and 50—4 cases, 27 yrs. average dif.

" " 50 " 60—5 cases, 29 " " "

" " 60 " 70—3 cases, 38 " " "

" " 70 " 80—1 case, 27 " " "

## 2. Difference of 15 to 25 years between ages of onset.

8 cases—5 nephews, 5 nieces.

Ancestor between 30 and 40—3 cases.

" " 40 " 50—3 cases.

" " 70 " 80—1 case.

" " 80 " 90—1 case.

## 3. Difference of 10 to 15 years between ages of onset.

11 cases—5 nephews, 5 nieces.

Ancestor between 30 and 40—5 cases.

" " 40 " 50—1 case.

" " 50 " 60—5 cases.

4. Difference of 0 to 5 years between ages of onset.

7 cases—9 nephews, 1 niece.

Ancestor between 20 and 30—3 cases.

" " 30 " 40—1 case.

" " 40 " 50—2 cases.

" " 50 " 60—1 case.

- B. *Descendant older than ancestor* at age of onset.....5 cases.

1. Difference of 0 to 5 years between ages of onset.

3 cases—2 nephews, 1 niece.

Ancestor between 20 and 30.

2. Difference of 7 years between ages of onset.

1 case—1 niece.

Ancestor between 40 and 50.

3. Difference of 13 years.

1 case—1 nephew.

Ancestor between 20 and 30.

*Uncles older than descendants is to the reverse as 30 is to 5.*

#### AUNTS AND DESCENDANTS.

- A. *Ancestor older than descendant* at age of onset.....32 cases.

1. Difference of 25 years and over between ages of onset of psychosis in aunt and descendant.

16 cases—10 nephews, 6 nieces.

Ancestor between 40 and 50— 2 cases, 31 yrs. average dif.

" " 50 " 60— 5 cases, 36 " " "

" " 60 " 70— 6 cases, 40 " " "

" " 80 " 90— 2 cases, 60 " " "

2. Difference of 15 to 25 years between ages of onset.

8 cases—4 nephews, 4 nieces.

Ancestor between 30 and 40—4 cases.

" " 50 " 60—2 cases.

" " 60 " 70—1 case.

" " 70 " 80—1 case.

## 3. Difference of 10 to 15 years between ages of onset.

6 cases.

Ancestor between 20 and 30—1 case.  
 " " 30 " 40—4 cases.  
 " " 40 " 50—1 case.

## 4. Difference of 0 to 5 years between ages of onset.

2 cases.

Ancestor between 50 and 60—1 case.  
 " " 60 " 70—1 case.

5. *Non-Pertinent* cases, 2.....2 cases.B. *Descendant older than ancestor* at age of onset.....13 cases.

## 1. Difference of less than 5 years between ages of onset.

5 cases—3 nephews, 2 nieces.

Ancestor between 20 and 30—2 cases.  
 " " 30 " 40—1 case.  
 " " 40 " 50—2 cases.

## 2. Difference of 5 to 10 years between ages of onset.

4 cases—2 nephews, 2 nieces.

Ancestor between 20 and 30—3 cases.  
 " " 40 " 50—1 case.

## 3. Difference of 15 to 25 years between ages of onset.

4 cases.

Ancestor between 20 and 30.

*Aunts older than descendants is to the reverse as 32 is to 13.*

In order to eliminate the possibility that the earlier age of onset in the case of the descendant is due to the fact that in later years people entered hospitals for the insane at an earlier age, the following statistical studies were undertaken.

The age of admission to the Taunton State Hospital was taken for 1000 cases between May 5, 1865, and May 5, 1869, also 1000 cases between May 10, 1880, and December 1, 1883, and the same number of cases from April 3, 1914, to January 28, 1916. Care was taken to avoid periods where changes in the state laws brought in an influx of elderly patients.

In addition to these figures, the admissions were analyzed according to age groups, and in the following tables these statistics show clearly that the average age of onset in the Taunton State Hospital is much later in the more modern hospital than in the earlier hospital, and that this tendency to the later age of admission is a steady growth.

Further, if one judges by age groups, the same phenomenon is observed, *i. e.*, that there was a higher percentage of young patients between 20 and 30 admitted in 1865 than in 1916. These figures, of course, show that the anticipation or antedating is a phenomenon not at all dependent upon admission age to the hospital, but, in fact, runs exactly counter to it.

AVERAGE AGE OF ONE THOUSAND CASES ADMITTED BETWEEN  
MAY 5, 1865, AND MAY 5, 1869.

Average age .....	37.7 years
Number of cases between 20 and 30 (inclusive).....	270

AVERAGE AGE OF ONE THOUSAND CASES ADMITTED BETWEEN  
MAY 10, 1880, AND DEC. 1, 1883.

Average age .....	40.7 years
Number of cases between 20 and 30 (inclusive).....	252

AVERAGE AGE OF ONE THOUSAND CASES ADMITTED BETWEEN  
APRIL 3, 1914, AND JAN. 28, 1916.

Average age .....	46.9 years
Number of cases between 20 and 30 (inclusive).....	212

*The later age of admission is probably due to the fact that of late more old people enter insane hospitals, but there remains no doubt that even in the earliest days of the Taunton State Hospital insanity was as early recognized and cared for as to-day.*

The data from the other hospitals, in so far as anticipation is concerned, have not been so carefully analyzed, but they bear out almost unanimously the statistics and the conclusions drawn from the Taunton State Hospital cases.

In other words, for the miscellaneous hospitals, the ancestor entered the hospital usually at a much later age than did his descendant.

The following general statements may be made regarding the psychoses presented in the various groups:

In the first place, in a general way it may be said that some pairs of one generation represented on the whole more nearly similar mental states than did those of two generations, *i. e.*, brother-and-brother groups, sister-and-sister groups, brother-and-sister groups, were more nearly alike in psychotic type than were father-and-son, mother-and-son, etc.

To amplify this statement a little further will no doubt lend it clearness. The senile dementia, involution psychosis and manic-depressive psychoses in an ancestor are quite likely to be followed by dementia præcox or imbecility, as well as by a more or less similar psychosis. On the other hand, it is rare to find an ancestor presenting a dementia præcox type of psychosis who has a descendant with manic-depressive insanity. This is also true of senile dementia, *i. e.*, it is likely to occur in an ancestor, but is not likely to occur in the descendant.

Further, if an ancestor has dementia præcox and the descendant also has the same disease, then the type of psychosis is likely to be worse in the descendant than in the ancestor, *i. e.*, a paranoid form of dementia præcox is apt to be followed by hebephrenic or catatonic type in the descendant with earlier dementia, more profound disintegration and more imbecility.

This correlates in a general way with the fact that the psychosis in the ancestor has its onset at a later age than that of the descendant, but even where the onset is of the same age the tendency is for the psychosis to be of a worse type. It is true that in a certain number of cases, especially those from the Taunton State Hospital, the reverse is seen, *i. e.*, a deteriorated dementia præcox will give rise in the next generation to a manic-depressive insanity; but this is, on the whole, a rare phenomenon.

The following groups show the earlier age of onset in the descendants, and the types following the disease:

#### MOTHER-DAUGHTER(S).

(See also Mother-son-daughter.)

#### EXPLANATION OF ABBREVIATIONS.

d. p. dementia præcox.	c. m. d. congenital mental deficiency.
m. d. i. manic depressive insanity.	(m) married.
alc. alcohol, etc.	(w) widowed.

Figures represent age at admission.

M 74	c. m. d.	D 35	d. p.
D 42	epileptic insane.	M 60	moron (alc.) (married twice; both degenerate).
M 79	senile psychosis.	D 20	feeble-minded, low grade.
D 40	d. p. paranoid.	M 60	involutional psychosis.
M 73	paranoid condition.	D 30	d. p.
D 47	d. p. paranoid.	M 71	d. p.
D 37	d. p. (last to break down).	D 34	d. p.
D 27	d. p.	M 70	senile d.
M 67	senile psychosis.	D 33	d. p.
D 35	imbecility with congenital hemiplegia and an episode of excitement.	M 63	m. d. (worry over insanity of daughter given as exciting cause, but onset given as 2 yrs. previous to daughter's).
M 65	senile d.	D 34	m. d.
D 43	d. p. (spoiled child).	M 52	d. p.
M 62	paranoid.	D 24	d. p. (religious excitement).
D 31	folie à deux (with mother constantly; separation in hospital attempted but had to be given up).	M 56	d. p. (ill health).
M 62	arteriosclerotic insane.	D 28	d. p.
D 37	d. p.	M 61	epilepsy (imbecile) (menopause; husband alc.).
M 65	d. p. catatonic, delusional (overwork; pneumonia).	D 21	epilepsy (imbecile).

#### FATHER-SON.

F 57	m. d. i.	S(m) 33	m. d., manic.
S 22	d. p.	F	epilepsy with mental deterioration and hallucinations.
F 62	organic d. (rt. hemiplegia; cerebral hemorrhage).	S 24	(m) m. d. (hypomanic).
S 19	d. p.	F 67	general paralysis (loss of property).
F 43	chronic alc. hallucinosis.	S 58	imbecile (fall in childhood; diphtheria; brain fever).
S 24	d. p.	F 56	d. p., alc. (worry about wayward daughter; wife very low mental order).
F 64	d. p., probably imbecile basis.	S 22	d. p. (injured in back and stomach).
S 36	imbecile, considerably demented.	S 21	d. p.
F 60	imbecile.		
S 33	imbecile.		
F 60	d. p. (paranoid).		
S 23	d. p.		
S 22	acute confusional insanity.		
F	recur. ins., maniacal.		

The following tables show that the age of onset is about the same in siblings, as are also the forms of mental disease:

## BROTHERS.

(See also Mother-son-daughter.)

50 (m) general paresis.	25 d. p.
78 (w) cerebral arteriosclerosis.	26 d. p.
31 d. p.	31 (d. p.?)
40 m. d., depressed.	27 idiot from birth.
B d. p.	31 imbecile, low grade.
B d. p.	34 (m) d. p. catatonic form.
B c. m. d.	36 d. p. catatonic form (father insane).
B c. m. d.	52 imbecile; at poor farm 20 yrs.
B d. p.	55 imbecile; at poor farm.
19 d. p.	48 d. p.
30 (m) primary delusional insanity, d. p.?	49 d. p.
37 d. p.	23 d. p.
30 d. p.	35 d. p.
31 d. p. Later: m. d. i.	30 alc. i., with epilep. conv.
30 d. p.	37 (m) constitutional inferiority.
35 d. p.	42 m. d. i. (mixed) (worried over politics and death of aunt).
22 imbecility (cong.).	45 (m) psychosis with organic brain dis. (lead poisoning) (attributes trouble to errant daughter).
26 imbecility 2 (Friedrich's ataxia).	21 (m) "nervous excitement."
35 d. p. (studied hard).	39 d. p., alc. (father died at Medfield; 1 sister had epilepsy).
39 organic d. (post apoplectic) (right hemiplegia).	35 d. p. (alc.).
25 acute a. i.	33 d. p. (alc.).
26 imbecile.	
23 (demented).	
27 (demented).	

## SISTERS.

33 d. p., paranoid.	39 constitutional inferiority.
40 d. p., paranoid (married).	14 d. p. catatonia.
35 m. d. i.	16 m. d. i.; d. p.?
48 m. d. i. (depressed form) (married).	26 d. p.
24 d. p., paranoid.	37 alcoholic hallucinosis.
30 d. p., paranoid.	67 paranoid (unclassified).
30 d. p., much deteriorated.	70 arteriosclerotic brain dis.
31 d. p., borderline case, m. d. i.?	52 organic dis. (syphilitic?) (widow).
39 m. d. i.	64 senile psychosis.
27 d. p., inclining to paranoid (married).	27 d. p.
	36 d. p. (married).

- 42 d. p. (married).  
 50 d. p. (married).  
 34 d. p. paranoid.  
 39 paranoia (married).  
 50 m. d. (married).  
 54 not insane.  
 40 d. p. (brother at Worcester).  
 45 m. d. (brother at Worcester).  
 35 d. p. with moderate deterioration.  
 46 m. d. i. (worry over husband).  
 (Niece formerly at Westboro).  
 24 imbecile (mother at Worcester).  
 26 moron (mother at Worcester).  
 38 feeble-minded, low grade.  
 41 (demented, "takes entire charge of sister" (mother feeble-minded).  
 31 feeble-minded (has illegitimate child).  
 38 hypochondriacal (at 27 had typhoid fever, followed by psychosis; mother insane; father alcoholic).  
 22 c. m. d.  
 26 c. m. d.  
 23 c. m. d. with m. d. superimposed (adopted by others).  
 Half-sister 34 d. p. (hebephrenic (shocked by death of fiance).  
 Half-sister acute confus. insanity (death of infant).  
 (1. Acute melancholia.)  
 45 (2. Chronic melancholia.)  
 (Cheerful disposition) (married).  
 53 arteriosclerotic dementia (married 3 times; now died.)  
 35 alcoholic insanity.  
 59 m. d. i., manic phase (has son 25. "Unclassed, probably m. d. (manic)" syphilis).  
 26 d. p. (overwork with venereal exc.).  
 36 d. p. (grandfather and 3 uncles insane).  
 37 d. p.  
 39 d. p.  
 37 d. p. (hysterical disposition) (menopause).  
 30 chronic mania (weak-minded).  
 29 d. p.  
 27 d. p. (mother insane).  
 42 d. p. (fear of losing position).  
 36 d. p. (ill health).  
 16 epilepsy (imbecile).  
 16 epilepsy (imbecile).  
 Sister epilepsy (moron).  
 Sister 13 epilepsy.  
 Mother imbecile, immoral.  
 Father alcoholic; uncle and grandfather epileptic.

## BROTHER(S)-SISTER(S).

(See also Mother-son-daughter.)

- B d. p.  
 S 27 d. p.  
 B d. p.  
 S 41 d. p.  
 B 38 m. d. i. (married, divorced, married).  
 S 28 d. p.  
 B 29 d. p., considerable deterioration.  
 S 32 d. p.  
 B 26 d. p.  
 S 35 d. p., hebephrenic (father at Worcester).  
 S 28 d. p.  
 B 45 (intestinal obstruction).  
 B 36 d. p. paranoid.  
 S epilepsy.  
 B 21 feeble-minded from birth; Wassermann doubtful.  
 S feeble-minded from birth apparently.  
 S 18 (simulating hysteria).

- |  |  |
|--|--|
| B 24 moron (traumatism).   | S 40 imbecility with d. p.                                 |
| S 30 (alc.)  | S 29 d. p. (fright).                                       |
| B 47 (alc.) (father insane, suicide).  | B 31 d. p. (hebephrenic).                                  |
| S 31 d. p.   | B 25 d. p. paranoid type (malaria at Panama).              |
| B 35 d. p.   | S 33 d. p. catatonic (m.) (unhappy; 6 children).           |
| S 22 chronic mania (affair with married man).  | S 24 congenital imbecile.                                  |
| B 45 alc. delusional insanity.   | B 21 d. p.   |
| S 29 (m.) d. p. (ins. at each pregn.).   | B 29 d. p.   |
| B 29 d. p. (alc., syphilis).   | S 49 d. p. (menopause).                                    |
| S 40 m. d., depressive type.   | B 37 d. p. (intemperance).                                 |
| B 47 involutional psychosis (politics; church fire).   | S 26 d. p. (nervous prostration).                          |
| B 24 d. p. constitutional basis.   | S 31 recur. mania (paresis of facial muscles since birth). |
| S 28 d. p. catatonic (hyper-religious).  | B 32 d. p.   |
| B 44 primary d.  | B 24 chronic mania.  |
| S 44 d. p., paranoid (threatened sister).  | S 30 epileptic d.  |
| S 27 1st and 2d, subacute melancholia. 3d, secondary d.  | B 24 epilepsy (meningitis).                                |
| S 27 primary delusional insanity (shocked by fiance).  | S 27 epilepsy (moron) (no convulsions between 7 and 20).   |
| B 20 chronic mania.  | S 16 epilepsy (imbecile).                                  |
| B 23 d. p. catatonic.  | B 20 epilepsy (father alc.).                               |
| S 16 unclassified; between m. d. and d. p. on constitutional basis (father and mother very low order of intelligence). | B 16 epilepsy (moron).                                     |
| B 52 alc. hallucinosis, probably developing d. p.  | S 5 epilepsy (idiot). Father alc., mother feeble-minded.   |
|  | B 44 epilepsy (alc.).                                      |
|  | S 36 epilepsy (idiot).                                     |
|  | B 15 epilepsy (idiot).                                     |
|  | S 15 epilepsy (threatened suicide).                        |
|  | S 36 d. p. (trauma).                                       |
|  | B 49 primary delusional insanity.                          |

## HUSBAND-WIFE (Son).

- |   |  |
|---|--|
| H 47 d. p.                                    | H 67 paranoia.   |
| W 57 recur. melancholia.                      | W 52 chronic melancholia.                                    |
| S 31 d. p.                                    | H 20 epilepsy (feeble-minded) (traumatism) (syphilis at 16). |
| H 29 d. p.                                    | W 40 epilepsy (moron).                                       |
| W 37 d. p.                                    | S 11 epilepsy (moron).                                       |
| H 35 paranoia.                                |  |
| W 29 d. p. (father reported insane at times). |  |

The above statistics are only preliminary to a very much more extensive piece of work in environmental and genealogical studies

which it is hoped will bring about some definite and valuable conclusions as to environment and other causes as factors in mental diseases.

In these subjects Dr. Abraham Myerson, pathologist to the Taunton State Hospital, is deeply interested, and has furnished me with the data of the Taunton State Hospital cases which are used in this paper, and has otherwise lent his hearty cooperation, although he is working in some fields along these lines into which I shall not enter.

#### DISCUSSION.

DR. WHITE.—I think Dr. Briggs will find more literature on this subject in English than he thinks there is. I cannot give details at this moment, or references; but I am quite sure the subject has been treated many times.

I rise as a result of cumulative irritation produced during the past hour by statements that have been made, and which are so inaccurate that they can't have very much value. For example, people have been speaking of negative Wassermann tests and nothing has been said about the technique or the dilution, and therefore, such statements have to go by the board; of course they can't be used by other people.

I have the same feeling with reference to the word "insanity." I don't like to criticise Dr. Briggs, because his material is interesting; but I can't see what right we have to add up the legal definitions of insanity; to add them up and draw conclusions therefrom. I think it would be entirely a parallel case if we were to go to a general hospital and take all the cases of typhoid and all the cases of pneumonia and all the cases of plague, of all the cases of syphilis and, say, taking the ages of incidence in this group, adding them up, giving the incidence of illness in others, to add them all together and then to reach a conclusion therefrom. I don't see how we can get anywhere under these circumstances. If insanity were a disease, it would be all right. It is not a disease; it is a so-called definition for people who are not able to get along in the world, for one or a thousand reasons, and I think we should no longer deal with these in the mass. I have been fighting for 20 years for dealing absolutely with individual psychology. Lots of Dr. Briggs' material is exceedingly interesting from that point of view. The case he read last is one we are familiar with. We have read about the contagion of mental diseases, cases where they have not been able, have not been allowed to adjust themselves. There was also a French writer who studied this class of people psycho-analytically. We are dealing with experiences in which the boy identifies himself with the father or mother, takes on symptoms of the illness which the mother or the father or some other relative is suffering from and they do it over and over again. I have seen patients representing—or so far as they were capable of representing—the symp-

toms shown by the father or the mother or the brother. It is very familiar in the incest complex and I think it has to be worked out in these individual cases. The English neurologist Goring, at the end of years of most elaborate mathematical work and study, has published an enormous tome in which he tried, as Lombroso had tried before him, to set forth a type of thief or murderer; but these are all artificially constructed types. You can't find a type of a thief or of a murderer by measuring up people convicted of thievery or murder any more than you can tell what kind of man a policeman is by counting the buttons on his coat.

I am sorry that I must talk in this way, but it is because I feel this way. I don't see why this association can't quit discussing this theoretical thing, insanity. I feel much the same way about heredity. The more I read about it, the less I feel I know about it and that it is a word used to hide our ignorance. We thought we knew about paresis before Wassermann; and then he came along and now our theories are being knocked into a cocked hat. We are getting down to minute definitions which throw doubt on almost all our former ideas. *Præcox* is nothing more than a waste-basket into which we throw all cases we know nothing about. We have six or seven groups that can't be thoroughly separated; catatonic and hebephrenic reactions which in a general way give a more or less fairly characteristic course; but you read Kraepelin's ninth edition and you find he is splitting up the paranoid group and so it is going on all the time. So unless we define definitely what are the mechanisms and reactions we are dealing with in special cases, I don't think that conclusions can be of very much value.

THE PRESIDENT.—I felt sure I would be able to bring out something on this paper. It seems to me far more interesting to have this real line of discussion, such as has been started by Dr. White, than another kind with which you are all but too familiar, such as "How delighted I am to hear this very illuminating paper" and "We are under very many obligations to Dr. A, or B, or C for it." I would like to hear more of the kind of discussion we have just had. I feel that Dr. White has set a very excellent example by throwing his hat into the ring and asking other gentlemen to come in. I hope this will not close the discussion.

If Dr. Briggs has anything to say in conclusion, we would be glad to hear from him as no other gentleman has risen to discuss the paper.

DR. BRIGGS.—I agree with Dr. White in what he said. We are trying to eliminate the word "insanity" in Massachusetts. There is a bill now before the Legislature to change the name of the Board of Insanity to the Board of Mental Diseases, and I hope it will pass. Dr. Copp has also suggested that a State Board of Insanity be made a State Board of Mental Hygiene, which may be a very good suggestion. While we do use the word insanity, it doesn't mean any more to us than it does to Dr. White.

## THE DURATION OF PARESIS FOLLOWING TREATMENT.\*

BY WILLIAM RUSH DUNTON, JR.,

AND

GEORGE FRANKLIN SARGENT,

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At a recent staff conference (October, 1915) we realized that of 13 cases of paresis who had received the Swift-Ellis treatment in 1913, 10 were dead, while of three cases who were resident in 1913 and to whom this treatment had not been administered, because it was thought that they were too far advanced to derive any benefit, two had died a short time before (were then under discussion) and one was still living. This led to an investigation of other cases of paresis who had been treated by other methods, and the results are here recorded.

It may not be out of place to recall that for many years various methods of cure for general paralysis of the insane, or, to use a more convenient term, paresis, have been proposed. Ten years ago Dr. Charles L. Dana read a paper<sup>1</sup> entitled "Some Evidence that Early Paresis May Be Arrested and Practically Cured." This was read before the New York Psychiatric Society, and naturally was followed by rather skeptical comment. This was probably the same paper published by Dr. Dana in another journal,<sup>2</sup> in which he gave abstracts of seven cases, the majority of whom were treated by mercurial injections, "active treatment," or the treatment was not noted. In this paper Dr. Dana states that the cases of pre paresis which he reports may be "really cases only of slight exudative brain syphilis, and that my patients have simply been cured of a slight degree of a perhaps rather diffuse vascular and meningitic exudate." In a later paper<sup>3</sup> Dr.

\* Read by title at the seventy-second annual meeting of the American Medico-Psychological Association, New Orleans, La., April 4-7, 1916.

<sup>1</sup> Abstracted in New York Medical Journal, Vol. 81, p. 140, 1905.

<sup>2</sup> Journal of the American Medical Association, Vol. 44, p. 1413, 1905.

<sup>3</sup> The Cure of Early Paresis, Journal of the American Medical Association, Vol. 54, p. 1661, May 21, 1910.

Dana gives the subsequent history of these seven cases. One, a broker, lost his money, tried to steal some, developed melancholia and suicided. Five had been "well" for six, seven, eight, eight, and nine years, respectively, since their first preparetic symptoms.

The duration of paresis has been given by Phillips,<sup>4</sup> who made a statistical study of 227 patients (197 men and 30 women) at the Pennsylvania Hospital, as two years for men and two years and nine months for women. Kraepelin gives the usual duration as three to four years, occasionally lasting seven years. This gives a wide range, and it is practically impossible at the present time to say just what is the duration of paresis. The question is further complicated by the reporting of cases going beyond the seven years given by Kraepelin. In 1905 Dedoff published a paper in a Russian journal, from an abstract<sup>5</sup> of which we learn that he had studied 900 cases of paresis who were admitted to the hospital during 20 years. But 18 of them were of abnormal duration, so that we may conclude that such cases are rather rare. We translate the abstract by Halberstadt, as it is of interest:

a. *Acute Cases.*—These are the cases where death occurred in less than a year. The author found 15. The prodromal period was generally very short, from 4 to 15 days. Then came a period of maniacal excitement with violent agitation and marked confusion of ideas lasting from a week to three months. This was followed by physical and mental failure.

b. *Cases of Prolonged Duration.*—These are cases which have continued for more than seven years without marked remission.

I. The prodromal period was prolonged for 13 years, the patient showing depression and neurasthenic symptoms. Then came ideas of persecution, which were not systematized. After three or four months came the period of maniacal excitement, which lasted seven or eight months. Finally the period of terminal dementia, lasting 10 months.

II. Without any period of excitement. The patients had grandiose and hypochondriacal ideas, developing into an intellectual weakness becoming more and more marked.

III. A condition resembling neurasthenia with the addition of illusions and hallucinations. After lasting 15 years there came

<sup>4</sup> American Journal of Medical Sciences, September, 1903.

<sup>5</sup> Bulletin de la Societe de Medicine Mentale, No. 124, Decembre, 1905.

delusions of grandeur lasting six months, followed by the terminal dementia lasting six months.

Probably all are familiar with reports of other cases of exceptionally long duration by Savage, Lapointe, Briscoe, Brush and Sinkler, and others. Wickel<sup>\*</sup> has written on "Stationary Paralysis," meaning that the morbid process is arrested at a more or less advanced stage of the disease, and the patient presents the same clinical picture for a long period. He gives abstracts of three cases who for periods of  $8\frac{1}{2}$ ,  $7\frac{1}{2}$  and  $5\frac{1}{2}$  years, respectively, have presented the same condition. The diagnosis is clear in all of these.

So that it must be conceded that we cannot arbitrarily fix any period of time as the probable duration of paresis. From two to four years is about as near as we can safely give, but we believe that there are more cases who will die after four years than will die before two years. In computing the duration of the cases which form the basis for this study we have thought best to ignore any prodromal period, if such could be learned, and have taken as the beginning the onset of active symptoms. Probably all will concede the difficulty of obtaining an accurate history of the onset of any psychosis from members of the patient's family, and the duration given is probably less than is really the case. All of the cases here presented have died under our own observation or that of others who were competent observers. No doubtful cases have been included. As will be noted, 46 of our 88 cases have shown positive cell findings. The older cases who were under care before the introduction of lumbar puncture were under observation for a sufficient period to make a positive clinical diagnosis, and in many instances this was confirmed by autopsy and microscopic examinations. Southard<sup>†</sup> has shown that the percentage of correct clinical diagnoses in cases of paresis is 85 in cases not subjected to lumbar puncture, and we believe that we have not included cases of other organic psychoses in our statistics.

Table I shows the duration, laboratory findings, etc., of 10 cases treated by the Swift-Ellis method. The shortest duration

<sup>\*</sup>Zur frage der stationaren Paralyse. Centralblatt fur Nervenheilkunde und Psychiatrie, September, 1904.

<sup>†</sup>A study of errors in the diagnosis of general paresis. Journal of Nervous and Mental Diseases, XXXVII, January, 1910.

TABLE I.

Before Treatment.										After Treatment.							
Initial.	Hospital Number.	Age.	Onset Mental Symptoms.	Admission.	Blood.	Spinal Fluid.	Cells.	Globulin.	Remission.	Treatment.	Discharged.	Blood.	Spinal Fluid.	Cells.	Globulin.	Died.	Duration.
H. M. ....	2486	50	6-1 1912	6-17 1912	+	+	20	+	0	Hg. Indefinite period 3 Intra Spin. (S. & E.)	2-1 1914	.....	+	10	+	4-21 1915	2 years 10 months.
S. A. R. ....	2633	32	3-1 1913	4-17 1913	++	+	130	+	0	12 Intra Spin. Inj. of Salvarsan (S. & E.)	8-4 1914	+++	+++	8	+	9-2 1914	1 year 6 months.
H. L. P. ....	2634	44	4 mo. 1912	4-19 1913	++	++	40	+	0	Hg. Indefinite period 5 Intra V. 666 3 Intra Spin. (S. & E.)	.....	.....	+	0	+	10-16 1915	2 years 6 months.
J. B. ....	2637	28	4-5 1913	4-26 1913	+++	+++	14	+	0	11 Intra Spin. Inj. Salvarsan (S. & E.)	2-7 1914	+++	+++	56	+	4-26 1914	1 year.
J. H. P. W. ....	2667	43	6 mo. 1911	6-6 1913	+	+	12	+	0	Hg. & KI. in 1903. Hg. & KI. for past 2 years, 8 Intra V. Inj. Sal., 4 Intra Spin. (S. & E.)	10-16 1913	+	+	5	+	11-6 1913	2 years 5 months.
J. H. ....	2697	36	3-1 1913	8-17 1913	+++	+++	20	+	0	3 Intra. Spin. Inj. 666 (S. & E.)	.....	+++	+	40	+	10-8 1913	9 months.
A. V. M. ....	2724	34	8 mo. 1913	10-24 1913	+++	++	32	+	0	Hg. & KI. for 3 months 1913. 2 Intra V. Inj. Sal., 7 Intra Spin. (S. & E.)	3-27 1914	+++	+++	10	+	9-25 1914	1 year 1 month.
L. T. C. ....	2745	42	12-1 1913	12-8 1913	+++	+++	50	+	0	Hg. & KI. Intervals for years. 12 Inj. Sal. Intra V., 10 Intra Spin. (S. & E.)	3-29 1913	+++	+++	0	+	12-13 1915	2 years.
G. P. ....	2752	52	7-20 1913	12-17 1913	+	+	10	+	0	Hg. for years, 6 Intra V. Sal., 5 Intra Spin. (S. & E.).....	7-20 1914	+	+	0	+	3-13 1915	1 year 8 months.
J. F. ....	2787	28	4-12 1913	3-21 1914	+++	+++	16	+	0	Hg. & KI. for 6 months at time of infection, 6 Intra Spin. (S. & E.)	11-14 1914	+++	+++	0	+	3 mo. 1915	2 years.

is nine months, the longest is two years and nine months, with an average duration of one year, nine and one-third months. The onset is usually given as is stated by friends giving the history, that is, the appearance of active symptoms. While all believe that paresis is a disease of gradual onset, at present time there seems to be no way of determining the onset of the prodromal stage. The following case abstract illustrates this:

CASE 3023. Man, aged 39, married. Gives a history of lues 20 years before, following which he was treated with mercury for an indefinite period. His occupation has been that of credit man for a wholesale house. In 1913 he changed his work taking a position with another house which two years later went into bankruptcy. He was out of work for a few months and was finally forced to ask his old firm to give him employment which they did but at a much smaller salary. This occurred in the early part of 1915. He had been much worried for fear he would not secure employment and developed insomnia for which his physician prescribed hypnotics but the patient refused to take them for fear of contracting the drug habit. He had a slight cough and immediately thought that he had tuberculosis, complained of feeling tired, of a lack of energy, and was advised to come to the Sheppard for treatment. His chief complaint on admission was of insomnia. He had no fallacious sense perceptions.

*Physical Examination.*—Eyes—the left pupil is slightly irregular in outline. Both pupils react to light but rather sluggishly, and also react to accommodation. Deep reflexes are all exaggerated. The superficial reflexes are normal. The physical examination is otherwise negative.

*Mental Examination.*—Patient is oriented and shows no clouding of consciousness. He admits that of late he has found some difficulty in memorizing and is unable to concentrate so well as formerly. Shows no hallucinations nor delusions. Is inclined to be hypochondriacal. Complains of insomnia and of a peculiar uncertain sensation in his head. Shows some emotional disturbance and believes that he will never be well.

Lumbar puncture made August 10, 1915, showed 60 cells and positive globulin. Wassermann was positive in both blood and spinal fluid.

Patient was discharged August 21, 1915, and advised to return to work. His wife was averse to any form of treatment although the seriousness of the condition was explained to her in detail. An opportunity was given her to have her blood examined but she refused.

March 25, 1916. The patient returned to the hospital to-day at the request of the physician and stated that he had worked steadily since August, giving satisfactory service and his only complaint has been insomnia. Physical examination, other than the eye changes and increased reflexes is negative. There is no speech disturbance. He has had no seizures. He voluntarily states that his memory is not keen, especially for recent

events although he shows no gross disturbance, and is "going through the chairs" of a Masonic lodge of which he is senior officer.

Examination of blood and spinal fluid shows a triple positive Wassermann in each, a positive globulin, and the colloidal gold test shows a beginning paretic curve. The spinal fluid gives a cell count of 110.

It is quite obvious, however, that until individuals generally form the habit of regular visits to physicians, and the latter make very complete examinations, that the early symptoms will not be detected, and it is only in few instances that the prodromal period can be estimated.

It should also be noted that in our tables no improvement has been noted as a remission unless it has been of sufficient degree to permit the patient returning to his former occupation, and that all cases considered have been men.

Table II shows cases in whom a positive pleocytosis has been found, and who have been under treatment by mercury, mercury and potassium iodide, potassium iodide, or a general tonic treatment.

Of 10 cases treated with mercury alone, the shortest duration was two years and four months, the longest six years and six months, with an average of four years and one month.

TABLE II.

Number.	Age.	Treatment.	Duration.	Spinal Fluid.	
				Cells.	Globulin.
1353	36	Hg.	6 years 6 months...	25	+
1527	50	"	4 years.....	21	+
1536	36	"	3 years 2 months...	60	+
1787	63	"	3 years.....	50	+
2009	35	"	3 years.....	24	+
2028	32	"	2 years 4 months...	14	+
2075	32	"	2 years 4 months...	40	+
2428	35	"	4 years 6 months...	38	+
2462	46	"	5 years 8 months...	25	+
2467	55	"	6 years.....	22	+
1786	56	Hg.—KI.	3 years 5 months...	10	+
2327	54	" "	3 years 5 months...	60	+
2481	35	" "	3 years.....	45	+
2513	41	" "	3 years 2 months...	32	+
1834	33	No treatment.	2 years 5 months...	12	+
2116	32	" "	3 years 3 months...	50	+
2152	53	" "	6 years 6 months...	36	+
2243	45	" "	4 years 6 months...	45	+
2495	43	" "	4 years 1 month....	63	+
2604	55	" "	3 years 5 months...	31	+

TABLE IIA.

Number.	Age.	Treatment.	Duration.
220.....	40	KI.	2 years 3 months.
254.....	36	"	3 years 3 months.
310.....	42	"	4 years 3 months.
1020.....	42	"	4 years 9 months.
1043.....	36	"	3 years 8 months.
1073.....	35	"	3 years 2 months.
1111.....	37	"	8 years 2 months.
1136.....	38	"	1 year 3 months.
1172.....	38	"	6 years 2 months.
*1447.....	47	"	2 years 10 months.
*1518.....	37	"	7 years 4 months.

\* These cases had positive cell count.

Of four cases treated with mercury and potassium iodide, the shortest duration is three years, the longest three years and five months, with an average of three years and three months.

Of six cases with general tonic treatment, the shortest duration is two years and five months, the longest six years and six months, an average of four years. (These may be said to be "untreated," in that they did not receive any "specific" treatment.)

Table IIA shows 11 cases treated with potassium iodide, the shortest duration being one year and three months, the longest seven years and two months, with an average of four years and two months.

From the above figures it would appear that treatment with mercury and potassium iodide has little effect upon the duration of the disease, but we are fully aware that our figures are entirely too few from which to draw any positive conclusions. The average of all these averages is 3 years 10½ months, or over two years longer than the average duration of cases treated by the Swift-Ellis method.

In attempting to verify the duration as found in the above "untreated" cases, we have collected from the hospital records 42 cases who received no specific treatment, shown in Table III. The longest duration found was eight years and five months. On account of frequent attacks of diarrhœa this patient received more opium than any other drug. The shortest duration was two years, and the average, three years and six months. So that we believe we may place more credence upon the average found from Table II.

TABLE III.

Number.	Age.	Treatment.	Duration.
7.....	27	General Tonic.	2 years 5 months.
97.....	49	" "	5 years 6 months.
122.....	38	" "	4 years 5 months.
123.....	55	" "	3 years 3 months.
141.....	34	" "	2 years.
179.....	54	" "	5 years 4 months.
183.....	32	" "	3 years 8 months.
184.....	41	" "	2 years 4 months.
225.....	49	" "	8 years 5 months.
330.....	34	" "	4 years.
346.....	45	" "	2 years 6 months.
409.....	37	" "	5 years 3 months.
423.....	36	" "	4 years 8 months.
436.....	41	" "	2 years 4 months.
443.....	62	" "	2 years.
460.....	51	" "	3 years.
482.....	31	" "	3 years 5 months.
502.....	53	" "	3 years 6 months.
513.....	40	" "	2 years 9 months.
523.....	46	" "	2 years.
560.....	33	" "	3 years 2 months.
572.....	48	" "	2 years 2 months.
586.....	44	" "	2 years.
606.....	44	" "	3 years 6 months.
641.....	47	" "	3 years.
690.....	43	" "	4 years 4 months.
761.....	53	" "	8 years 10 months.
774.....	43	" "	2 years 4 months.
885.....	34	" "	2 years 4 months.
1002.....	41	" "	3 years.
1170.....	40	" "	3 years 4 months.
*1223.....	37	" "	6 years 2 months.
*1269.....	33	" "	5 years 8 months.
*1277.....	28	" "	3 years 3 months.
1297.....	54	" "	2 years 1 month.
*1365.....	37	" "	2 years 10 months.
1442.....	38	" "	3 years 2 months.
*1460.....	54	" "	3 years 4 months.
*1503.....	41	" "	2 years 9 months.
*1504.....	42	" "	2 years 7 months.
*1556.....	39	" "	7 years.
*1647.....	35	" "	5 years 2 months.

\* These cases had positive cell count.

On the other hand, we believe that as yet we have too few cases who have died following the Swift-Ellis treatment to accept the average as found to be final. Probably as the number of these increases the duration may be lengthened. Two of our cases have shown rather striking remissions, as is shown by the following abstracts:

CASE 2640. W. R., aged 38, married, stone cutter, was admitted to the Sheppard and Enoch Pratt Hospital July 2, 1912, discharged August 24, 1912, readmitted April 27, 1913, discharged April 30, 1913, readmitted June 21, 1913, discharged October 13, 1913. No history of lues was obtained. Onset of mental symptoms occurred about the middle of June, 1912, when patient was euphoric, neglected his work and gradually became grandiose. He purchased an automobile, gave up work, and spent his time joy-riding. On admission he showed physical and mental symptoms of paresis. July 6, 1912, a Wassermann test of his blood was negative. Spinal fluid, Wassermann ++++, cells 23; globulin +; treatment Hg. and KI.; also salvarsan intravenously.

Discharged August 24, 1912, against advice.

He returned for salvarsan injection, April 27, 1913, remained in the hospital three days. At this time he was able to look after his work to some extent, and had taken one or two small contracts.

June 24, 1913, Wassermann + in both blood and spinal fluid, 35 cells; globulin +. Salvarsanized serum was given intraspinaly.

On July 17, 1913, he was given salvarsanized serum intraspinaly. Wassermann +, cells 8, globulin +.

On October 8, 1913, he was given salvarsanized serum intraspinaly. Wassermann unchanged, cells 7.

Discharged October 13, 1913, in remission.

Two subsequent treatments were given with no change in Wassermann. At present the patient has lost insight and shows physical and mental deterioration.

CASE 2994. H. S., aged 32, single, divorced, a salesman, was admitted June 15, 1915, discharged September 4, 1915. He gave a history of having contracted syphilis 12 years before and had first shown symptoms of tabes four years before. The onset of mental symptoms occurred in May, 1914, when he became grandiose and excited.

June 23, 1915, blood and spinal fluid +++ Wassermann. He also showed the following physical signs: Pupils were irregular in outline and unequal, and showed a sluggish light reflex. There was a facial tremor. All deep reflexes were abolished and there was a marked ataxia.

Three injections of salvarsanized serum were given and were followed by rather severe reactions. His condition was critical during the early part of July. Later in the month he began to improve, put on weight and was discharged September 4, 1915. He is in a remission and is able to again take up his work.

That just as remarkable results may occur with other treatment is shown by the following case:

CASE 1748. P. H. R., age 32, male, single, groceryman. Father and two paternal uncles insane.

Onset abrupt, June 8, 1908, with excitement and grandiose ideas. He drew checks when he had no money in the bank. There was insomnia.

Patient showed physical and mental symptoms of paresis. He was admitted to the hospital June 17, 1908.

June 20. Lumbar puncture. Cells 95, globulin +. Patient given Hg. subcutaneously.

July 14. Patient showed marked emotional disturbance with euphoria. There was no insight.

August 12. Discharged. Patient claimed that he was able to return to work and that he was better than at any time for eight years. He showed partial insight but was mildly euphoric.

June, 1914. Patient visited the hospital and was in a condition of elation. He claimed that he had worked steadily for a railroad company in the capacity of clerk since the fall of 1908. This was later corroborated by his family. Physical examination showed pupils irregular in outline and unequal, no pupillary light reaction; all deep reflexes were exaggerated but equal. There was well marked Romberg.

In July it again became necessary to place him under institutional care.

A recent experience showed us how rapidly paretic excitement may subside without any care other than general hospital routine.

CASE 3101. G. H. H., age 51, married, admitted January 15, 1916. Occupation, secretary for a fraternal insurance order. Onset of mental symptoms January 12, 1916. On January 11 patient began to work late and told his wife that it was necessary for him to complete some work at the office at a specified time. The next day began work earlier than usual and continued at the office until 3 a. m. the following morning. Wife noticed that he was irritable, showed pressure of activity, and was talkative. He promised his wife a limousine and stated that he had made a million that day.

On admission he was markedly grandiose, wanted to buy the hospital and offered \$4,000,000. Memory was impaired, especially for recent events. Later in the day he became aggressive, demanding his release, and was destructive and excited.

January 16. Blood +++ Wassermann; spinal fluid +++ Wassermann; cells 300; globulin +; colloidal gold reaction positive. Admits lues fifteen years ago.

January 19. Stated that he was giving a banquet to politicians, including God, that evening at one of the hotels and demanded his release. Very unreasonable, excited and threatening.

February 1. Memory very much impaired. No insight. Never felt better in his life, not insane. Threatens those who are responsible for bringing him here.

Eyes: Pupils irregular, light reaction sluggish. Reflexes increased. Romberg present. Marked tremor of hands and facial muscles. Paralysis of left arm for short period yesterday. To-day there is some difference in the muscle strength with general incoordinate movements on the affected side. No general convulsion. Handwriting and speech are disturbed.

February 8. Much more comfortable. Surprised when told that he had offered \$4,000,000 for the hospital, but makes an attempt to explain some things and offers excuses. Only partial insight.

February 26. Continued to improve. Discharged to-day.

March 19. Patient has taken up his work again and is able to do same satisfactorily. Visited hospital to-day. Kindly feeling toward all and is really in a very comfortable condition. No treatment.

For convenient reference our results may be tabulated thus:

AVERAGE DURATION OF CASES OF PARESIS FOLLOWING TREATMENT.

S. E.	Hg.	Hg. & KI.	KI.	General.
10 cases.	10 cases.	4 cases.	11 cases.	6 cases, 4 y.
1 y. 9½ m.	4 y. 1 m.	3 y. 3 m.	4 y. 2 m.	42 " 3 y. 6 m.
				48 " 3 y. 9 m.

Other writers have reported a marked improvement in mental symptoms following injections of salvarsan by practically all the methods known. As yet we have only given it intravenously and by the Swift-Ellis method, but we have noted a marked improvement in a number of cases. We have not seen, however, any reference to the fact that the duration of cases treated with salvarsan is less than normal, and the object of this paper is to bring this fact before you in order that all may collate their experiences with this drug and so obtain more accurate statistics.

To refer to but two writers:

In his very interesting paper upon the "Diagnosis and Treatment of Parenchymatous Syphilis,"\* Dr. F. W. Mott has much more to say of the former than the latter, but he does say very positively: "I have come to the conclusion that these late degenerative forms of syphilis of the nervous system (and I refer especially to general paralysis) have not been cured, nor even greatly benefited, by any treatment with salvarsan or neosalvarsan, whether administered intravenously or intrathecally." "Those cases in which a remission of symptoms occurred after treatment may, as Oppenheim says, be explained by coincidence, for we know very well cases have remissions without any treatment. Those in which cure is claimed by enthusiasts may be due to error in diagnosis."

Amsden has stated that ("Intraspinal Medication in the Treatment of Paresis," General Bulletin of the Society of the New

\* Journal of Mental Science, LXI, 253, p. 175, April, 1915.

York Hospital, Vol. 1, No. 5, p. 8, Dec. 24, 1915) in the past two years 25 cases have been treated by the Swift-Ellis treatment, and while the occurrence of remissions in untreated cases makes it difficult to estimate fairly the results of any treatment of it, that the number, duration and quality of the remissions in these treated cases exceed by considerable the expectation for remission in untreated cases.

As a conclusion it may be stated that according to our experience the duration of paresis following treatment by the Swift-Ellis method is about half that of cases treated by the older methods.

## TREATMENT OF CEREBROSPINAL SYPHILIS WITH REPORT OF CASES.\*

By L. W. GROVE, M. D.,

*Senior Assistant Physician Bryce Hospital, Tuscaloosa, Alabama.*

In this discussion by the term cerebrospinal syphilis we include all types of syphilis of the nervous system; namely, general paresis, tabo paresis, tabes and localized lesions, formerly designated cerebrospinal syphilis. Our excuse for offering this discussion is to show what is being done in the one institution for the insane in our state, and, too, to offer in some small way a stimulus for an early diagnosis of these conditions; for, as shown by Collins in an analysis of 100 cases, in an early diagnosis must rest the secret of success. We all are agreed to-day that there is but one cause in the production of these conditions; namely, the spirocheta pallida. We are also, from all recent reports, agreed that whether, due to a more accurate method of diagnosis or greater prevalence of the disease, or both, we are considering syphilis more and more as a major factor in the production of ill health. While only a comparatively small per cent of syphilitics develop evidences of cerebrospinal involvement, the distress, pain and unhappiness wrought among this small number makes their treatment a subject for profound thought, one worthy of the expenditure of untiring energy, in an effort to meet the demands of the situation.

The success to be had in the treatment of cerebrospinal syphilis depends largely upon three factors, which we wish very much to emphasize; namely, prophylaxis, early diagnosis, and adequate and persistent treatment of cases seen early. The prophylactic treatment of cerebrospinal syphilis is best attained by adequate treatment of the syphilitic, in the so-called active stages of the disease, when seen by the general practitioner. As shown by an analysis of 60 cases of cerebrospinal syphilis admitted to the Bryce Hospital during the last three years, only 10 per cent gave a

\* Read at the seventy-second annual meeting of the American Medico-Psychological Association, New Orleans, La., April 4-7, 1916.

history of treatment in any way adequate, a large per cent suspending treatment as soon as the active lesions disappeared.

*An early diagnosis, while the condition is yet susceptible to treatment*, is the second requisite. Of the 60 cases above cited, 75 per cent had shown evidences of the disease—by this I mean cerebrospinal involvement from 6 to 12 months before admission, and during this time the condition had not been suspected and no treatment had been instituted. In 18 cases admitted since the beginning of this series, we have thought but 11 fit subjects for treatment, the remaining seven—nearly 50 per cent—showing such profound dementia and evidences of permanent degeneration that we have not thought treatment advisable. If we would accomplish all that is offered by the modern treatment of cerebrospinal syphilis it must be recognized during the toxic or irritative stages; before real degeneration of the nerve cell has taken place. This is best accomplished by careful attention to such symptoms as unaccountable headaches, insomnia, unsteady gait in the darkness, unaccountable leg pains, gastric crisis and neurasthenias, and on all suspected cases a Wassermann of blood, or better of blood and spinal fluid with cell count, should be made. While a history of syphilis, when positive, is of value, our records, with records of many others, go to show that a negative history is of little or no value. Only 30 per cent of cases admitted to the hospital give a positive history of syphilis. As suggested by Waller and Haller, of Boston, the spirocheta might gain entrance through an abrasion without giving evidence of a localized lesion; also, in a certain per cent of cases infection has unquestionably been accidental and as a result has been misinterpreted or overlooked. Again, in a certain per cent of cases, an intraurethral chancre has been misinterpreted for gonorrheal infection, and, again, the history is misleading. We believe that the only safe and prompt diagnosis in cerebrospinal syphilis, at a time while it is yet amenable to treatment, must be made by the serologist. At this point we wish to emphasize the fact that in a certain per cent of cases a negative blood might be misleading. In two cases here reported there was persistent negative blood with four plus positive spinal fluid.

*Adequate and persistent treatment in cases seen early* is a third necessity.

We interpret a large per cent of recent reports dealing with the treatment of cerebrospinal syphilis as more or less misleading—certainly in no way standardized, and on the whole too favorable.

This, we think, has most probably come about by the patient passing from observation too early. In a certain proportion of cases there is noted a temporary improvement that often proves transient, as shown by Collins. Certain of his cases thought improved have later returned with symptoms exaggerated. Upon the other hand a few writers have only condemned the modern methods. We believe that a certain number of unfavorable reports of treatment of cerebrospinal syphilis has been the result of the treatment undertaken in cases too far advanced. In our experience the cases showing advanced dementia, giving evidence of degeneration of the nerve tissue, have benefited very little from treatment. We also make an effort to show that the success from treatment in our hands has been exactly commensurate with the degree of damage done.

*Some unfavorable results have been due to the treatment not being persistent.* In our cases, in the majority of instances, there was little or no improvement following the first one or two treatments, and we think that there is little to be hoped for from one or two injections. We think there is little question but that the present method of intradural administration of either mercury or salvarsan is of some value, but it is certainly not without its dangers and limitations. For this reason we have not felt justified in relying wholly upon this form of therapy, and, as will be shown, our cases have routinely been treated by intradural injections of salvarsan in connection with the usual intravenous method, or by intradural injections of mercurialized serum in connection with mercurial inunctions. We believe that there is but one goal to be attained; namely, a thorough saturation of the system with anti-syphilitic agents, which had best be brought about by the use of all modern methods of treatment used conjointly. These cases should have persistent treatment extending over an indefinite period of time—being checked from time to time by Wassermann of blood and spinal fluid.

In the beginning of this series we outlined one system of treatment consisting of the intravenous alternating with the intradural

injections of salvarsan at seven-day intervals—the intradural injections being given direct—the drug being diluted by the patient's spinal fluid collected at the time of injection (a modification of the method of Ogilvie). Of six of these cases thus treated, *four* showed bladder and bowel complications following the fourth and fifth injections. While these four cases represented the advanced type of the disease, we have felt that these complications might possibly have been in a measure due to the action of the drug.

Being unable to secure salvarsan during recent months, and for the reason advanced above, in the more recent cases we have relied upon mercury given intradurally and by inunctions. Following the intradural administrations of the mercurialized serum in 1/25-gr. doses, at seven-day intervals, we have noted a more severe immediate reaction than from the salvarsan, but have not noted bladder or bowel complications manifested by retention or incontinence. As will be shown in the nine cases reported, *three* have been discharged clinically well with a negative or slightly positive spinal fluid; *two* have been much improved, but with spinal fluid still to a degree positive, and *four* have not improved—two of which have since died, and two are declining.

CASE 1.—C. W. H. White male; admitted October 27, 1915; denied infection; attack began rather suddenly three weeks before by patient becoming nervous and more or less excited; did not realize the value of money, and showed a flow of grandiose ideas. He had not complained of physical discomfort. Examination showed a well-nourished man; tendon reflexes only slightly exaggerated, pupillary reflexes slightly impaired. Patient very talkative; showed a flow of grandiose ideas, and thought himself very wealthy. When opposed in these delusions he was inclined to be a little irritable. He had shown no dementia; oriented. Wassermann: Blood and spinal fluid three plus positive. *Diagnosis:* Early paresis. Treatment begun November 26, consisted of intravenous .6-gm. doses of salvarsan alternating with intradural doses of salvarsan at seven-day intervals. After fifth dose, patient began to improve, and improvement continued. He showed some reaction from each intradural treatment, but of a mild type. He left the institution by himself February 12, clinically well; spinal fluid very faintly positive.

CASE 2.—P. A. O. White male; age 34; admitted August 13, 1915. Patient, dentist; history of sore on finger eight years before which was suspicious of accidental infection. Present attack began three months before by physical depression and inattention to business. Three weeks before he began to display a flow of grandiose ideas, thinking himself immensely wealthy, had made unreasonable business deals, and when

opposed would prove to a degree irritable. Examination showed a well-nourished man; pupils a little sluggish to light, but reacted to accommodation; knee-jerk not impaired; gait and speech regular. *Mental State:* Very delusional; full of grandiose ideas; no dementia. Wassermann: Blood and spinal fluid four plus positive. Butyric acid test positive. *Diagnosis:* Early paresis. Treatment instituted, consisted of intravenous .6-gm. doses of salvarsan, alternating with increasing doses given intradurally at seven-day intervals. Improvement was immediate, and following the eleventh injection he was dismissed from the hospital clinically normal with negative spinal fluid.

*Subsequent Note March 10, 1916.*—Patient to-day visited us; is apparently normal. He has resumed his work.

CASE 3.—A. B. M. White male; age 36; admitted April 5, 1914; positive history of syphilis 10 years before; condition began some months before by inattention to business and physical depression. He had recently developed grandiose ideas and during the last six weeks he had been inclined to be very delusional and at times irritable. Physical examination showed a well-developed man; pupillary reaction somewhat impaired; knee-jerks a little exaggerated, but gait and speech regular. Patient was very delusional; showing a flow of grandiose ideas. Wassermann: Blood and spinal fluid four plus positive. *Diagnosis:* Early paresis. Treatment instituted April 15, consisted of intravenous .6-gm. doses of salvarsan, alternating with increasing doses of salvarsan intradurally at seven-day intervals. Following the third dose, patient showed improvement. June 20 took dinner with his family. September 23 was discharged from the hospital clinically normal, but a slight impairment of pupillary reaction persisted; blood still showed positive. Since record was made patient has died of typhoid fever.

CASE 4.—W. A. C. Male; white; age 40; admitted October 31, 1915. Present attack began several months before by epileptiform seizures. Patient had been to a degree demented and at times would lose himself; very much disoriented. His condition had progressed. Physical examination showed a well-nourished man; pupils fixed—pin-point type; sensibilities dull and motility much impaired; gait unsteady; knee-jerks absent; patient very delusional, talked at random; displayed grandiose ideas. Wassermann: both blood and spinal fluid four plus positive. Butyric acid test positive. Treatment instituted November 11, consisted of intravenous .6-gm. doses of salvarsan alternating with intradural administrations of salvarsan. Following the first two treatments patient was more comfortable; leg pains subsided, and there was some improvement in his mental state. Treatment was continued January 10. Following intradural treatment, he developed incontinence of urine and feces with almost total paralysis of lower limbs. A subsequent treatment was given with no improvement, and treatment was discontinued.

*March 27, 1916.*—Patient is bed-ridden, bladder complications persist, and he is declining; but mentally improved. He has since died.

CASE 5.—R. H. R. White male; age 45; admitted October 7, 1915. History of infection seven years ago. Present attack had lasted about a year, first showing itself by inattention to business transactions, and did not sleep well. Physical examination showed a well-nourished man; gait unsteady; knee-jerks absent; Argyle-Robertson pupils. Patient complained of severe lightning pains in legs. He showed a flow of hallucinations and was demented. Blood and spinal fluid negative. *Diagnosis:* Tabo paresis; advanced. Treatment instituted October 15, consisted of intradural injections of salvarsan at seven-day intervals in connection with mercury rubs. Following first three treatments there was improvement; leg pains disappeared, but improvement was only temporary. Following subsequent treatment there were further reactions; at times temperature 101 with an occasional vomiting. Condition continued unfavorable. Following seventh intraspinal, patient was discharged. February 15: Sister wrote that patient was still confined to bed, had little or no control of bladder, and was declining.

CASE 6.—J. H. White male; age 35; admitted September 18, 1915. History of syphilis several years ago. Present attack first showed itself 18 months before by physical depression and inattention to business. He began to notice that he could not control his movements and would stagger in the dark. At that time he had leg pains and was given treatment for a time. Physical examination showed a well-nourished man; knee-jerks exaggerated; Argyle-Robertson pupils; speech spastic; Romberg present. He was rather talkative, delusional, inclined to be irritable, and was considerably demented. Wassermann: Blood and spinal fluid four plus positive. Treatment instituted November 15 consisted of intradural injections of salvarsan at seven-day intervals in connection with mercurial rubs. Following third dose there was slight improvement, which proved only temporary. Following fourth intradural there was acute retention, and treatment was discontinued January 10.

March 14, 1914.—Patient was still confined to bed; had no control of urine or feces, and was growing weaker.

CASE 7.—W. O. S. White male; age 50; admitted September 5, 1915. History of syphilis several years before; had treatment for a short time. Present trouble began 18 months before, first showing itself by physical depression and inattention to business. Six weeks before admission he developed a sudden flow of grandiose ideas and hallucinations. Physical examination showed a well-nourished man; gait spastic; knee-jerks much exaggerated; speech spastic; Argyle-Robertson pupils; unable to stand with his eyes closed. Patient was demented and disoriented, with various grandiose delusions. Wassermann: Blood and spinal fluid four plus positive. Butyric acid test positive. *Diagnosis:* Advanced general paresis. Treatment was instituted September 15, consisting of .6-gm. doses of salvarsan, alternating with intradural administrations at seven-day intervals. Following fourth treatment he was much improved, especially in his gait, but improvement was only temporary, and following fifth treatment there

was retention of urine followed by incontinence. He continued to improve mentally.

Following subsequent intradural treatments patient showed rather severe reaction, consisting of chilly sensations and a rise of temperature. Patient continued to decline. He was removed to his home January 3, bed-ridden, no control of urine or feces.

*March 1, 1916.*—Wife wrote that patient was declining.

CASE 8.—R. H. L. White male; age 42; admitted December 17, 1915. Indefinite history of syphilis eight years before. Attack first showed itself four months before by inattention to business and to his family. He was more or less disoriented and a little demented. Physical examination showed a well-nourished man; pupils responded to light and reacted to accommodation; patellar reflexes were absent, but gait and speech were regular. Wassermann: Spinal fluid was four plus positive; blood negative. *Diagnosis:* Tabo paresis. January 15: Treatment was instituted consisting of mercurial rubs daily in connection with drainage of spinal canal at seven-day intervals followed by intradural injections of 1/25-gr. doses of mercuric chloride in suspension of human serum—Mulford preparation. Following each intradural injection patient suffered a rather severe reaction, consisting of chilly sensations with rise of temperature; temperature lasting from 24 to 48 hours. Results have been reasonably good and we have recently advised that he might return home. Patient still a little dull, but thoroughly appreciative and co-operative, understands his condition. Knee-jerks still absent; pupillary reaction little impaired. Wassermann of spinal fluid still to a degree positive.

CASE 9.—W. R. B. White male; age 35; admitted December 26, 1915. History negative; cause given as family trouble. Condition first showed itself two years before by inattention to business, disorientation and insomnia. The condition had progressed. Physical examination showed well-nourished man; pupils reacted slowly to light, also to accommodation; knee-jerks diminished; unsteady on his feet in the dark; spastic speech. Patient inclined to be irritable—delusions of persecution, and a little demented. Wassermann of spinal fluid was four plus positive; blood negative; cell count 15; butyric acid test positive. *Diagnosis:* Tabo paresis. Treatment instituted January 20 consisted of mercurial inunctions daily in connection with drainage of spinal canal at seven-day intervals followed by intradural injections of 1/25-gr. doses of mercuric chloride in human serum. Following each intradural patient showed a rather severe reaction, consisting of rise of temperature with chilly sensations and occasional vomiting. Condition has improved in that patient is more rational, has given up his delusions, and has gained in weight. He still shows evidences of tissue damage; pupillary reaction still a little sluggish; a little unsteady in the dark. We have advised that he might return home.

*Conclusions.*—1st. It is too early in the modern treatment of cerebrospinal syphilis to draw definite conclusions, but evidence shown warrants the effort in early cases.

2d. There is little to be hoped from treatment in advanced cases; hence the crying need of an early diagnosis.

3d Negative history and blood negative Wassermann might prove misleading; hence the necessity for examination of the spinal fluid.

4th. There is strong evidence to show that injurious effects might come from too large doses of anti-syphilitic agents given intradurally.

5th. That the thorough saturation of the system with anti-syphilitic agents is the end hoped for—hence all methods of treatment should be relied upon used conjointly.

I take this occasion to give Dr. Charles LeBaron, the pathologist to the institution, credit for the excellent work he has done in the serum examination incident to these cases. Also to Dr. D. M. Collier for his assistance rendered in carrying out the treatment.

## SYPHILIS IN THE EAST LOUISIANA HOSPITAL FOR THE INSANE.\*

A WASSERMANN SURVEY OF SIXTEEN HUNDRED PATIENTS.

By CHAS. S. HOLBROOK, M. D.,

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Syphilis, in its many and varied manifestations, has been a fertile and productive field for study since the fifteenth century. During the latter part of the fifteenth and the beginning of the sixteenth centuries, practically the whole world was visited for the first time by this most important disease. During the sixteenth, seventeenth and eighteenth centuries, and especially during the nineteenth century, the natural history of syphilis and its protean symptomatology had been so thoroughly and so successfully studied, that hardly a manifestation of this disease remained to be discovered.

In addition to the brilliant contribution of such men as Morgagni, Ricord, Wallace, Diday, etc., the work of Fournier is responsible for much of the present-day knowledge of syphilis. Dr. Pusey states that "Fournier's greatest individual work perhaps, was his demonstration of the causal relationship of syphilis to paresis and tabes, his insistence on the essential identity of these two nervous diseases, and his studies and propaganda on the subject of syphilis and marriage."

The tremendous strides that the knowledge of syphilis has made during the twentieth century has been due to the painstaking observations and sacrifices of scientists working in the laboratories.

In 1903 Metchenichoff and Roux demonstrated that syphilis was inoculable in apes.

In 1905 Schaudinn and Hoffman ended the long search for the organism of syphilis by the discovery of the spirochaeta pallida.

\* Read at the seventy-second annual meeting of the American Medico-Psychological Association, New Orleans, La., April 4-7, 1916.

In 1906 and 1907, Wassermann, Neisser and Bruck applied the complement reaction of Bordet and Gengou to the diagnosis of syphilis, and developed as a practical test for syphilis, what is now known as the Wassermann reaction.

In 1911 Noguchi succeeded in cultivating in vitro the spirochæta pallida, and completed the proof of the specificity of this organism by producing the disease in animals from his cultures.

Since the introduction of the Wassermann reaction in 1907, it has been extensively employed and many modifications have been introduced. Some of these enjoy popularity, while others have been found to be of little practical worth, for one reason or another, and have been discarded. The Wassermann reaction gives us valuable information, but perhaps its greatest use has been in the making of general surveys of large numbers of people and the establishment of the relation of syphilis to other diseases and conditions.

The following survey was undertaken with several objects in view:

*First*, to enable us to make use of a valuable diagnostic measure.

*Second*, to govern and control the treatment of luetic patients.

*Third*, to collect information and to publish this information, so that it might be added to the general stock of knowledge concerning syphilis.

#### MATERIAL USED.

This report is based on a study of approximately 2000 reactions (1985) performed on 1600 inmates of the East Louisiana Hospital for the Insane, which is located at Jackson, Louisiana. This hospital was built in 1848, and many of the present residents have been inmates for a great many years, therefore the greater proportion of those examined may be considered chronic, or custodial cases.

Both white and negroes are treated in this institution, there being of the former 1153 and 447 of the latter. On account of the over-crowded condition of the colored department, very few negro patients have been received during the past few years, and this fact must be kept in mind when considering the result of the survey.

March, 1916, ended a biennial period of this institution, and those patients admitted during the last two years present the best

opportunity for study. After the entire population has been considered as a whole, those received during this period will be separately studied. Our serological laboratory has only been in existence since August, 1915, and all work has been done in the last few months.

The complement fixation tests have been used with cases of malaria, tuberculosis, and in other conditions. The result of these investigations will be published at some future time.

#### TECHNIC.

The blood was drawn from a vein at the elbow, usually three or four hours previous to being examined. Occasionally blood was kept in the ice box from 18 to 24 hours. The serum was not inactivated as a rule, though this was done as a check in some cases.

Noguchi's acetone-insoluble fraction of tissue lipoids was used for antigen, four units being employed in the original Wassermann. An anti-complement control was set up for each serum. Two units of rabbit anti-sheep hemolysin was used against sheep corpuscles, the hemolytic system being balanced each day. Complement was obtained from the pooled bloods of several guinea-pigs, usually  $\frac{1}{2}$  cc. of 1 to 10 dilution was found to be the requisite amount.

In conjunction with the original Wassermann, I employed the Tschernogubow reaction. Thus every serum was tested by both methods. In 1909 Tschernogubow recommended the employment of the natural complement in human serum, as well as the natural hemolizing substance for guinea-pig corpuscles. Dr. F. B. Gurd published in the *Journal of Infectious Diseases*, in 1911, a most valuable contribution on the value and reliability of this reaction. During the past four or five years the Tschernogubow reaction has been extensively employed and carefully studied by several competent laboratory workers in New Orleans, and I feel sure that the results have been gratifying. The reaction has been employed elsewhere and several reports have been published. The majority of these are satisfactory. It appears that the reaction has not been given the recognition, I think, it deserves.

I believe most, if not all, of the adverse criticism has come from workers who have not conscientiously attempted to determine the value of the reaction, but have accepted too literally the prevalent idea that the variation of the amount of the hemolytic body and complement in human serum is marked.

Every one of the 1600 sera examined contained sufficient complement and hemolysin against guinea-pig corpuscle to make this reaction of value. Probably 80 per cent of the sera contained from two to four units of natural hemolysin, 10 per cent contained less, and 10 per cent contained more than this amount.

The Tschernogubow reaction is more delicate than the original Wassermann, and is of especial value in treated cases, and in those cases that do not react to the original Wassermann. In my series of cases the original Wassermann was positive in 90 per cent, while the Tschernogubow was positive in nearly 99 per cent of the known luetic cases. Not one blood was positive to the original reaction, and negative to the Tschernogubow, though the converse of this was frequently the case. The reaction, of course, cannot be used in testing spinal fluid, due to the absence of complement in this fluid.

From the experience I have had with the Tschernogubow reaction during the past few years, I feel that I can heartily recommend it; especially when used in conjunction with the original Wassermann.

A detailed analysis of results with this reaction will be presented in a subsequent report.

#### RESULTS.

The entire population of the East Louisiana Hospital for the Insane is slightly over 1600, but as some of the patients were on furlough during the time the survey was conducted, the results given below are based on a study of 1600 inmates. Half of the patients now in the institution were received during the last 10 years, and these represent 82 per cent of the positive cases. The rapidity with which the percentage of positive reactions diminished when compared to the length of residence in the hospital is very striking, showing that the death rate among the syphilitic patients is quite high even when paretics are not included. Of the patients now in the hospital 11 per cent of those received in

the last 10 years have a positive reaction while this occurred in only  $2\frac{1}{2}$  per cent of the remainder.

Of the 637 white males, 50, or 8 per cent, gave a positive reaction.

Of the 516 white females, 20, or 4 per cent, gave a positive reaction.

Of the 212 colored males there were 15, or 7 per cent, who gave a positive Wassermann reaction.

And of the 235 colored females, 25, or 11 per cent, gave a similar reaction.

Of the entire white population, numbering 1153 patients, 6 per cent gave a positive reaction while 9 per cent of the 447 negroes gave a positive reaction. These percentages are smaller than those reported by many writers, but, I believe, this can be explained by the fact that half of the patients have been here from 10 to 50 years. In recent years very few negroes have been received on account of the overcrowded condition of this department, and the death rate of syphilitics has undoubtedly been much higher than on the non-luetic patients. Only distinctly positive reactions (double plus) have been considered and the more sensitive cholesternized antigens have not been employed.

The paretics, including a few cases of cerebral syphilis received during the past 10 years, presented themselves for study because the clinical diagnosis could be relied upon and the number of patients treated has been large enough to give a fair conception of the rôle that syphilis has played as the direct etiological factor in the cases admitted during this decade.

During the last 10 years 769 white males have been admitted and 14 per cent of these were diagnosed paretics.

Of 539 white patients, 6.3 per cent were diagnosed paretics.

Two hundred and fifty-one colored males were received during this period and of these 11.2 per cent were paretics.

The colored females show the smallest percentage. Of 231 received, only 4.3 per cent were diagnosed paretics.

Of the total number patients received during the past 10 years, 8.5 were paretics.

The colored patients received have been comparatively few and the percentage of general paretics, no doubt, is smaller than would be expected, but due to the inability to accommodate the insane



negroes, many of them remained in almshouses and in houses of detention for months, and during this time a number of paretics must have died.

Fifty per cent of the residents of this hospital are received from the city of New Orleans, and of the 150 cases of paretics treated, 100 were from this city. The cases of insanity in which syphilis can be given as the direct cause are twice as numerous in those patients from the city as in those from the rural districts.

*Biennial Period.*—The survey was made during the last five months of the biennial period that ended March, 1916, and those patients received during these two years furnished the most reliable information. Forty persons received, not including paretics, died or were discharged before their bloods were examined and these are not included when calculating percentages.

TABLE II.

SHOWING NUMBER OF GENERAL PARETICS AND SYPHILITICS RECEIVED BIENNIAL PERIOD; GIVING THEIR AGE, SEX, RACE AND CIVIL CONDITION.

	Number of those received during Biennial Period.	Males.		Females.		Total.
		Whites.	Colored.	Whites.	Colored.	
Between 10 and 20 years.	61	1	....	....	....	1
“ 20 “ 30 “	130	4	....	2	....	6
“ 30 “ 40 “	135	18	2	6	2	28
“ 40 “ 50 “	91	13	3	2	....	18
“ 50 “ 60 “	45	4	1	....	....	5
“ 60 “ 70 “	22	1	....	....	....	1
Over 70 years.....	10	....	....	....	....	....
Unknown.....	21	....	....	....	....	....
Total Paretics.....		41	6	10	2	59
Total Number received Biennial Period.....		264	42	174	35	515
Percentage Paretics on Number received.....		15.5%	14.3%	5.8%	5.6%	11.07%
Percentage of Syphilitics on Number received.....		18.3%	16.9%	7.6%	28.9%	17.4%

Of the total number of 77 syphilitics, 29 were single and 48 were married.

Of the 264 white males admitted in the last two years, 41, or 15.5 per cent, were paretics.

Of the 174 white females received, 10, or 5.8 per cent, were paretics.

Of the 42 colored males, 6, or 14.3 per cent, were paretics.

And of the 35 colored females, 2, or 5.6 per cent, were paretics.

Of the total number of patients received (515) in the last two years, 59, or 11 per cent, suffered from dementia paralytica, or, in other words, syphilis was the direct cause of insanity in at least 11 per cent of those admitted. Some of the diagnoses given above were not corroborated by the laboratory, because the patients were transferred or died before the survey was commenced. In the majority of the patients, the diagnosis was established or verified by the Wassermann examination of the serum and spinal fluid, by cell count, and the estimation of globulin in the spinal fluid, by Lange's colloidal gold reaction, and by the Ross-Jones ring test. Occasionally, Noguchi's butyric acid reaction was made use of, but the Ross-Jones ring test was found to be simple and reliable and it was used as a routine.

I have treated several cases of paresis by intraspinal medication as recommended by Swift-Ellis and Byrnes. One patient is of special interest—an advanced parietic. After seven Swift-Ellis treatments the Wassermann became negative in the serum and in the spinal fluid, the excess of globulin and the pleocytosis in the spinal fluid disappeared. With this change in the laboratory findings there was a very marked improvement in the patient's mental condition.

In the previous paragraphs the paretics treated during the last two years were considered, now I wish to call attention to the total number of syphilitics admitted during the biennial period. This percentage, minus the percentage of paretics, will show the percentage of syphilis that is not the direct cause of insanity.

Of the white males 18.3 per cent were syphilitic, or 2.8 per cent not including the paretics.

Of the white females 7.6 per cent were syphilitic, or 1.8 per cent not including paretics.

Of the colored males 16.9 per cent were luetic, or 2.6 per cent, not including paretics.

Of the colored females 28.9 per cent were luetic, or 23.3 per cent not including paretics.

Of the entire 515 patients admitted, 17.4 per cent were infected with syphilis, and 11 per cent were paretics.

## CONCLUSIONS.

The serological laboratory should be an important department of every hospital for the insane, and a routine Wassermann should be made of every patient received, the spinal fluid should be studied in all suspicious cases.

Treatment should be given the luetic cases and the intraspinal administration of salvarsan and mercury should be employed in cases of syphilis of the brain and spinal cord.

General surveys should be made of hospitals, orphanages, penitentiaries and wherever large groups of persons are collected.

The Tschernogubow reaction should be more extensively used for it is a very valuable modification of the original Wassermann technic.

## DISCUSSION.

THE PRESIDENT.—Before throwing this general subject for discussion, I have here the paper prepared by Drs. Dunton and Sargent which appears on the program, but which I do not propose to read, but of which the concluding paragraphs, at least, may be of interest to the members of the association. This paper was suggested by a matter that came up at a staff conference in October, 1915, when we realized the fact that of 13 cases of paresis who had received the Swift-Ellis treatment in 1913, 10 were dead. Such is the history of our cases whose diagnosis has been confirmed by laboratory methods. Considerable time and expense have been devoted during the past few years in the application of Swift-Ellis method. As I said before, 10 out of 13 died. The average duration of life was one year nine and one-third months. In 33 other cases in which the laboratory has confirmed the diagnosis, but who had received other treatment, the average duration of life is almost twice as long. The possible conclusion is—of course it is unwise to draw conclusions from too small a number of cases—that while we have made the patients more comfortable for a period—one man returned to his work as a salesman where he was doing rather good work, another man is a stone cutter—all that could be claimed was that we had temporarily made them as comfortable as possible. The whole subject is now open for discussion.

DR. WHOLEY.—The fact is now generally recognized that our greatest chance for successfully combating the effects of syphilis lies in its early diagnosis. It is very surprising that we still find medical men, and even alienists, attaching positive significance to a negative Wassermann on the blood; of course we know that a negative Wassermann on the blood by no means warrants the conclusion that syphilis does not exist. A large percentage, especially of neurological cases, may exhibit a negative blood Wassermann and yet the spinal fluid presents positive reactions for all tests for syphilis. A spinal puncture is a very simple and safe procedure, and

if it were done more regularly in suspected cases, much valuable time could be gained in the treatment of these conditions, and fewer cases of syphilis of the central nervous system would be overlooked. The truth of these statements could, I believe, be verified in the wards of almost any general hospital in America.

It is also necessary to emphasize the great importance of a thorough neurological examination as an aid in the detection of the existence of syphilis of the central nervous system. Every syphilitic is a possible candidate for a psychiatric institution. The general hospitals are often gateways for such institutions, and since in the general hospitals cases are seen earliest as a rule, one cannot overvalue the importance of a most scrutinizing neurologic examination. Such examination should aim at the detection of the slightest deviation of the reflexes from normal. Pupillary changes are of especial diagnostic significance (marginal irregularities, inequalities, slowed reaction to light, etc.). Also of especial import are any differences or lack of symmetry in the reactions on the two sides of the body.

When one has eliminated alcohol, head injuries, the results of meningitis or other severe infection, rheumatic arthritis, and pernicious anemia which also at times causes reflex changes, as possible etiologic factors, one is justified in strongly suspecting the existence of cerebrospinal lues.

These statements are based upon the observation of a large number of cases of syphilis of the central nervous system, seen in a general hospital. Syphilis was definitely established in this large series in spite of the fact that 50 per cent had given a negative history, and many had been passed along as free from lues because of a negative Wassermann on the blood.

DR. A. H. RUGGLES.—I want to say a few words which may be just a little more optimistic than the views that have been expressed in the last paper read and in Dr. Brush's abstract of the paper by Drs. Dunton and Sargent.

We began this treatment in Butler Hospital four years ago this spring and since that time have treated 32 cases, eight of which were tabetics; two of the general paretics are now dead.

In view of what the preceding paper has said as to considering these as cases of syphilis, there can be no doubt in our series that they had every sign of tabes or general paresis. I don't know that anyone has proved either one way or another and I don't think anyone can prove that cerebrospinal syphilis is a different disease entity from general paresis so that we may use for practical working purposes these cases as syphilitic affections of the nervous system.

Of these 32 cases, two cases of general paresis, have for a year and a half been well, are working and the laboratory findings are all negative. This is a small number of course, but it does seem to speak against the dangers which some of the papers have seemed to indicate are connected with the treatment. I did not understand whether all of those cases which were treated were treated by the Swift-Ellis method or whether they had the salvarsan introduced directly into the spinal canal. My own experi-

ence has been that none of the cases of the Swift-Ellis method were made worse; the tabetics were especially relieved, the pains being mitigated. In a few of them the disease progressed, but we did not feel it was due to the treatment. Certainly our experience differs from the results noted in Dr. Brush's institution; of the 32 cases treated only two are dead, and while it is of course unwise to draw conclusions as to treatment, before knowing the statistics of other institutions, we feel satisfied with our results. It will be unwise also to make any statement as to the average duration of these cases for we have one case who has suffered from general paresis for 18 years, and if such cases were included the statistics would show the average duration pretty high. Only two have died, two have been restored to their economic efficiency and apparently at least to a temporary normal condition and many others have shown a markedly improved state. While we feel very much more conservative than we did when the first reports came out, we feel that by making our treatment intensive, and by individualizing, we have made a definite progress in the treatment of syphilitic disease of the central nervous system and we must not be discouraged, but keep on modifying our treatment according to the individual needs.

DR. M. L. GRAVES.—I should say, Mr. President, after these excellent papers that perhaps there is one feature we should consider, that is that we are liable to make the same error in the diagnosis of syphilitic disease as being responsible for psychoses and the degenerative mental disorders we often meet with in our hospitals for the insane and in the general hospitals, simply because we find a positive blood Wassermann or a positive serological formula in the spinal fluid. That same thing occurred years ago when we used tuberculin reactions. With a positive tuberculin reaction, we made the error of diagnosing the disease as tuberculosis. Later on we found that the patient undoubtedly had a tubercular reaction, but the illness from which he was suffering, and even from which he died, was not tuberculosis at all. And to a less extent this has been the case in the diagnosis of typhoid fever, we found febrile conditions in which he had a positive Widal reaction and reached the conclusion which seemed legitimate that it was typhoid, but some of these cases coming to autopsies later have not shown the lesions of typhoid. I am very sure that a number of cases diagnosed as general paresis or as syphilitic psychosis or any other character simply because they have a positive blood Wassermann or a spinal Wassermann, have suffered from other diseases. They may have shown positive syphilitic symptoms, but have not suffered from a syphilitic psychoses at all. I was quite surprised at the statistics of Dr. Holbrook, of the Eastern Louisiana Hospital for the Insane, in regard to syphilitic reactions among the colored patients in his institution. We have a much larger percentage of positive syphilitic reactions among negroes in the medical service of the John Sealy Hospital at Galveston. Our Dr. McNeill has made careful examinations in more than 600 cases in the colored ward and checked these with luetin reactions of Noguchi and found 44 per cent of negroes showing positive syphilitic reaction. I have

been surprised at the small number of paretics among negroes. I think the doctor's statistics are rather large. I myself must express the opinion that the negro is relatively resistant to general paresis; and only a small percentage of negroes widely affected with constitutional lues will show lesions of general paresis. Another thing, in regard to treatment, I have tried all the methods, with the arsenical and mercurial, including the intravenous treatment; also the intraspinal, the intramuscular and the subcutaneous. Flexner pointed out several years ago that both colloids and crystalloids passed into the spinal fluid with great difficulty. Hence it would appear difficult to attack a syphilitic disease of the meninges and the cortex with remedies supposed to pass into the cerebral spinal fluid from the general circulation. We must remember that the patient has a preceding vascular syphilis as well as nervous syphilis and we have not been able to cure the disease by putting any number of centimeters of arseniated serum or mercurialized serum into the spinal canal. We must remember that general paresis represents a definite pathological picture of meningo-encephalitis frequently producing adhesions between the meninges and the cortex; that intraspinal injections either by gravity or the pressure from the syringe will not carry it up through the subarachnoid space over the cortex in such cases. In cases without obstruction or adhesions you could cover the entire cortex with a serum, but I have demonstrated in numerous intraspinal injections in cases of meningitis that fluid would not pass into the lateral ventricles of the brain with all the pressure safe to use, or by gravity, under any circumstances. In cases of meningitis I have used sterile coloring matters to tint Flexner's serum and injected this intraspinally, and have colored the entire cerebral cortex with the stained serum, but have never been able to get a drop into the ventricles. Patients coming to autopsy demonstrated this conclusively.

## THE PSYCHOGRAPH OF ROSSOLIMO.<sup>1</sup>

By BERYL PARKER,  
*University of Chicago.*

### PART I.

#### FORM OF THE PSYCHOGRAPH AND DESCRIPTION OF THE TESTS.

Determination of the mental status of the individual is based upon the investigation of nine mental processes, arranged in three groups, thus:

##### I. Tonus.

1. Attention.
2. Will.

##### II. Impression.

3. Perception.
4. Memory.

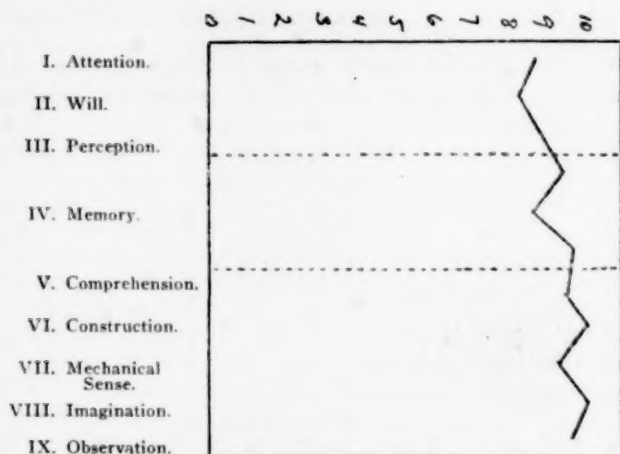
##### III. Associative processes.

5. Comprehension.
6. Construction, ability to combine.
7. Skill in mechanics.
8. Imagination.
9. Observation.

Ten is taken as the standard maximum score for each of the nine processes. The record—at first simply indicated by plus and minus signs—is later made upon a special sheet of squared paper in the usual form of the graph, the development height of each of the nine processes being marked in its appropriate column (Fig. 1). Thus one may see at a glance in what mental traits the individual is deficient, and the skilled examiner may determine by analogy, what certain variations of mental equilibrium signify in the diagnosis of a case.

<sup>1</sup> Communicated by H. C. Stevens, Psychopathic Laboratory, University of Chicago. This review, which is in part a translation, is based upon three articles by Rossolimo which were published in *Klinik für psychische und nervöse Krankheiten*, 1911, vi, 249; 1912, vii, 22; 1913, viii, 185.

Each of the nine processes has been broken up more or less completely, in order to test it with relation to certain of its components. For example, there are 10 tests for simple attention, 10 for attention to exceptions, 10 for persistence of attention in spite of distractions, and 10 for range of attention. In the complete psychograph (Fig. 2) there is a column for each one of these divisions of attention, so that it is possible to determine in which element the case is weakest. But for practical purposes it is more



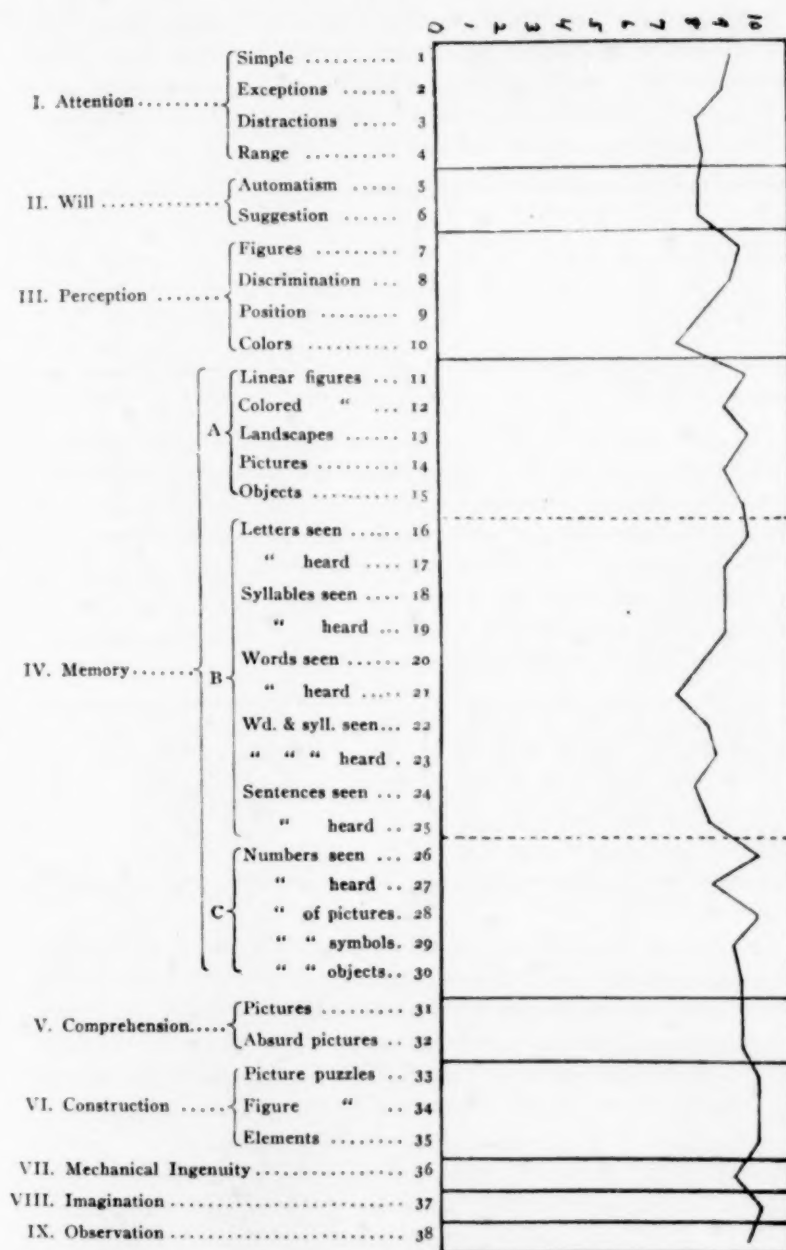
6 normal persons 8 to 32 yrs.  
 $P 9.2 = (8.5 + 9.2 + 9.7) \div 9.1\%$

FIG. 1.

convenient to average the four, and represent the coefficient of attention by a single score on the smaller graph. According to this analysis, the nine mental processes are subjected to examination by means of 38 series of tests, each series having 10 parts to allow for the perfect score of 10 in each test.

#### I. ATTENTION.

1. The simple test for attention is given with a series of 10 cards, in each of which a definite number of 3 mm. holes has been punched (Fig. 3). Over a piece of felt is placed a thin sheet of paper, covered with a strip of dark, coarse, woollen cloth; on top of all one of the cards is fastened. The subject is given a



6 normal persons.  
 $P_{9.2} = (8.5 + 9.2 + 9.7) + 9.1\%$

FIG. 2.

large needle with a handle, and told to pierce through every hole. The series is arranged to present increasing difficulties. The examiner may check accuracy while the test is being performed, or he may count the holes in the thin sheet of paper afterward. One error gives a minus for that card.

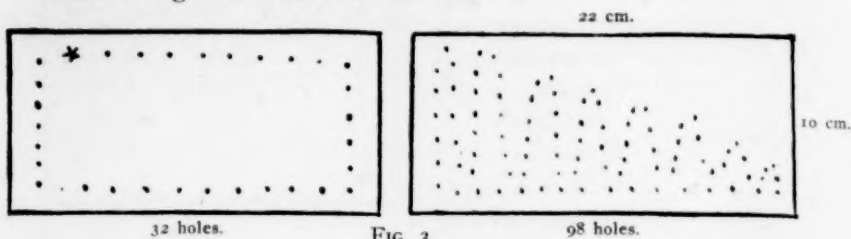


FIG. 3.

2. Attention to exceptions is tested with the same series of cards, using the reverse side, on which each hole is marked with a cross, circle, line in irregular sequence (Fig. 4). The subject is told to skip the holes marked with crosses, but to punch all others.

3. Persistence of attention under distraction is tested by giving a series of cards similar to those in 1 and 2. This time the examiner seeks to divert the subject's attention by asking questions, showing objects, moving about, etc.

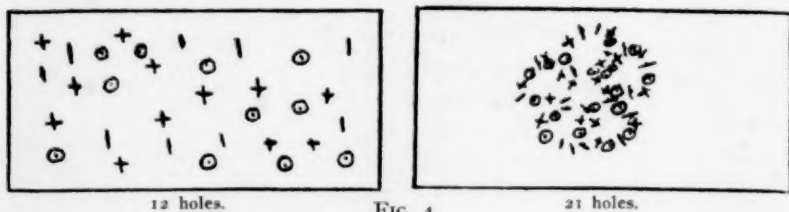


FIG. 4.

4. The 10 tests for range of attention are more varied, and depend upon the possibility of attending to several things at one time. Four of them are based on the ability to divide the attention between the right and left hands.

(a) With a pencil in each hand the subject is instructed to copy simultaneously these two columns of figures.

Left hand.	Right hand.
1. —	1. 0
2. 0	2. —
3. —	3. 0
4. 0	4. —
5. —	5. 0

(b) The subject is told to knock slowly upon the table five times with the left hand while the right hand makes one stroke more each time, thus

Right hand.	Left hand.
1 stroke.	1 stroke.
2 strokes.	1 stroke.
3 strokes.	1 stroke, etc.

Two of the tests require that the person shall observe details which are not essential parts of the pictures shown (Fig. 5).

(c) In describing the picture after a few seconds for inspection, the circumscribed cross must be mentioned.

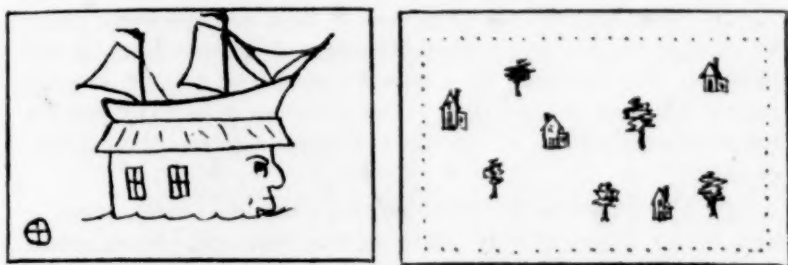


FIG. 5.

(d) The subject is told to count the houses and trees, and then he is asked whether they were drawn on a perfectly plain blank paper. Plus for mention of the dotted line.

(e) While the subject is counting the holes on the back of one of the attention cards, the examiner knocks three times beneath table, and then asks the subject what occurred.

## II. WILL.

### 5. Resistance to automatism:

(a) Five of these tests are much alike, in that the subject is asked to count or repeat some word exactly with the examiner. A minus score is recorded if the subject continues the action after the examiner ceases.

(b) The Binet lineal test is given with 10 lines of increasing length on 10 separate sheets, followed by five lines of equal length. Each card is exposed three to five seconds, and the question asked, "Is this line longer or shorter than the other?"

(c) Twelve simple, but meaningless linear figures are shown on a card for several seconds. The subject is asked to point out on the back of the card those figures which he has already seen. On the back is one figure which is entirely new; a score of minus is recorded if the subject points to this figure also.

6. Resistance to suggestion:

(a) The examiner states that he will show something funny. He actually shows an indifferent object, like a pencil or cup. Score is minus if the subject laughs.

(b) Two cylinders of equal weight and size are given to the subject. One has three large metal screws in each end. If these affect his judgment of their weight, score minus.

(c) Three pictures are presented in turn, and questions asked to exaggerate the suggestive influence of certain lines in the pictures. For example, three mice are shown on a block of wood with a streak of shadow near. The examiner asks "Did you see the mice on the block of wood? On which side was the cat, left or right?"

(d) The examiner pronounces nine common names, pushing back his 10 fingers as if he were counting them off. Score minus if the subject believes there were 10 names.

### III. PERCEPTION.

7. Recognition of a figure among nine similar figures. There is a series of 10 cards (Fig. 6). On the back of each is a single

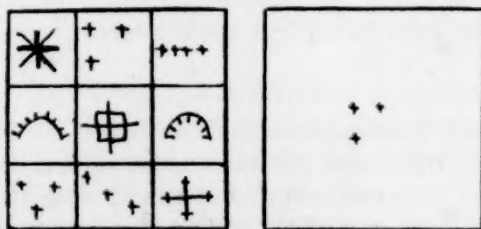


FIG. 6.

linear figure which the subject sees for three to five seconds. Then he is required to point it out among nine similar figures on the face of the card.

8. Discrimination of differences. A series of 10 cards is shown (Fig. 7) and the subject is required to detect difference or equality in size, form, distance, etc.

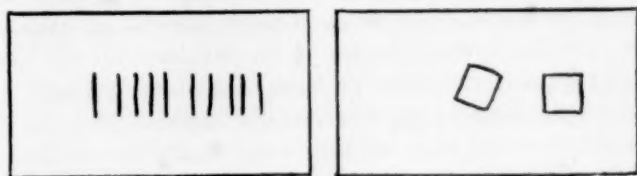


FIG. 7.

9. Relative position. A series of 10 cards similar to those in Fig. 8 are exhibited one at a time. The subject immediately reproduces the location of the dots on similar sheets of blank, squared paper.

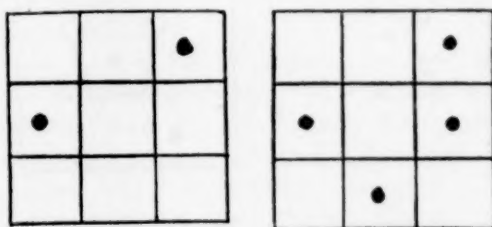


FIG. 8.

10. Recognition of colors. Ten color shades are shown one at a time for a few seconds, and the subject is asked to pick out those he has seen from among 25 shades.

#### IV. MEMORY.

All the tests for memory are given twice: first, for an immediate reaction; second, for the reaction after one and one-half hours. The two scores are indicated separately on the graph, and the percentage of forgetfulness is calculated from the difference in the two. Rossolimo makes three divisions of the memory tests, viz.: (1) purely optic impressions from figures, pictures and objects; (2) the elements of speech presented both to the eye and the ear; (3) numbers and numerical groups, appealing to the eye alone except in one test. By keeping the full record of these tests,

the examiner may determine whether optic or acoustic impressions persist longest in the subject's memory; and whether there is any significant decline in the ability to retain numbers or grasp numerical groups. The tests are all devised to minimize the influence of association, but even without the aid of associative memory, the normal percentage of forgetfulness should not exceed 20 or 30 per cent after the lapse of one and one-half hours. Both the recognition and reproduction methods are used; the stimuli are presented once for the former, and twice or thrice for the latter method.

#### A. PURE OPTICAL STIMULI.

11. Recognition of linear figures. Ten sheets bearing linear figures (Fig. 9) are shown from two to three seconds each. The

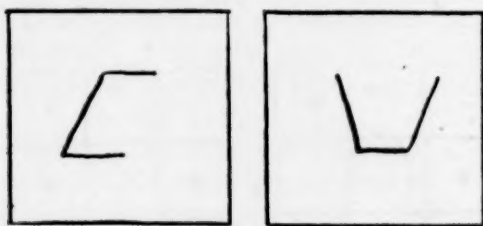


FIG. 9.

eleventh sheet bears 25 numbered figures from which the subject selects those he has already seen.

12. Recognition of colored figures. Ten cards bearing little colored figures are shown (Fig. 10). They are then mixed with

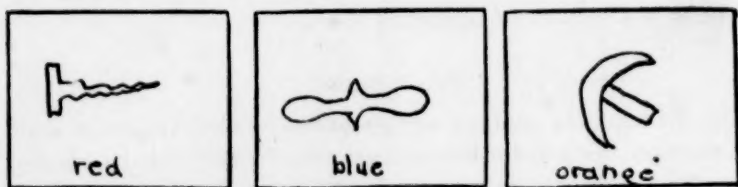


FIG. 10.

15 other cards, bearing similar figures, and the subject selects from the pack the 10 he saw first.

13. Recognition of pictures. Ten unfamiliar landscapes are shown once. They are shuffled with 15 similar pictures, and the pack is presented for selection of the 10.

14. Reproduction of picture content. Ten pictures are arranged with the most interesting and characteristic in the center of the pack, on the theory that "the beginning and end of the learning period are better." The series is shown three times; then the subject describes the content of each picture broadly, and in any order.

15. Naming of objects. Ten objects are shown one at a time—book, spool, box, cup, etc. After seeing them twice, the subject names all the objects in any order.

#### B. ELEMENTS OF SPEECH.

16. Ten capital letters on separate cards are shown three times, and the subject asked to repeat.

17. Ten different letters are pronounced slowly and distinctly three times, and the subject repeats.

18. Optical memory for 10 syllables printed on cards is tested by the recognition method.

19. Acoustic memory for 10 syllables by reproduction.

20. Optical memory for 10 words by reproduction.

21. Acoustic memory for 10 words by reproduction.

22. Optical memory for the arbitrary association of a word and a syllable is tested with a series of 10 cards, each of which bears a word and an unrelated syllable. These are presented three times, and then the subject is required to call up the appropriate word when he sees the syllable alone, or the syllable when the word is shown to him.

23. Auditory association of word and syllable.

24. Optical memory for 10 sentences of two to four words each, tested by the reproduction method.

25. Acoustic memory for sentences.

#### C. NUMBERS.

26. Optical memory for 10 numbers by reproduction.

27. Acoustic memory for 10 numbers by reproduction.

28. Number of objects in pictures. On each of 10 cards are small pictures of objects, exactly alike and arranged in regular order (Fig. 11). This series of pictures is shown three times, and the subject asked to tell the number of the different groups of objects; birds, houses, cats, etc.

29. Number of symbol groups. A similar series of cards is presented in like manner. These bear groups of symbols in regular arrangement (Fig. 12).

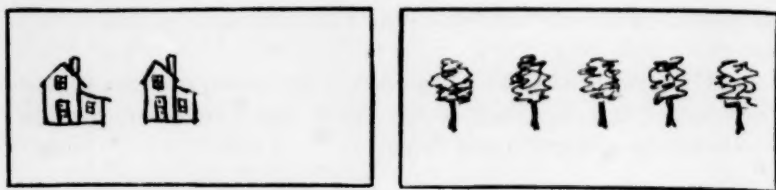


FIG. 11.

30. Real objects are presented in number groups, according to the reproduction method; six buttons, four pencils, eight seeds, etc.

#### V. COMPREHENSION.

31. Three series of rather ordinary pictures are provided for (a) children, (b) illiterate adults, (c) educated adults. The main



FIG. 12.

differences between the series are their simplicity, familiarity of subject and possibilities for thoughtful interpretation. In each series the first five are presented with the question, "What is there in this picture?" Enumeration alone is expected. The second five pictures are shown and the subject is told to make a little story about each of them. It may be very brief, but must show some interpretative ability.

32. Detection of absurdity. Three series of pictures are provided for this test also. Some of the subjects are:

(a) A village in which everything is covered with snow except the roofs of the houses.

(b) A landscape lighted by both sun and moon.

- (c) A bald-headed man combing his non-existent hair.
- (d) A fish in a bird cage.
- (e) A lady with a bandage over her eyes reading a book.

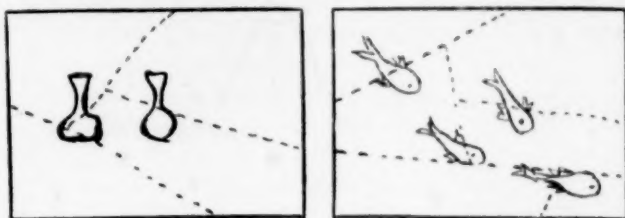


FIG. 13.

## VI. CONSTRUCTION.

33. Picture puzzles (Fig. 13). Ten cards bearing pictures of small objects, have been cut in pieces, and the subject is required to reconstruct them. The series is arranged to present increasing difficulties.

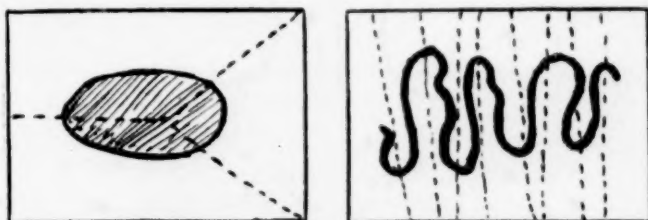


FIG. 14.

34. Geometric figure puzzles (Fig. 14). A series of 10 cards cut to make more and more difficult puzzles.

35. Construction of figures from simple elements. A great

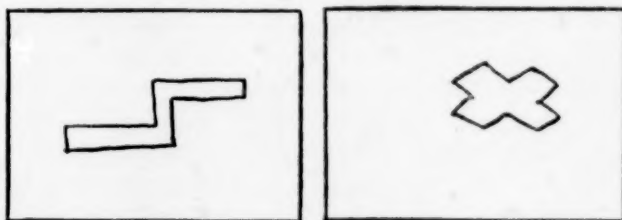


FIG. 15.

number of small squares and triangles are given the subject where-with to construct figures exactly like those on the 10 cards which are exhibited one at a time (Fig. 15).

## VII. MECHANICAL INGENUITY.

36. For this test 10 simple mechanical puzzles are used (Fig. 16).

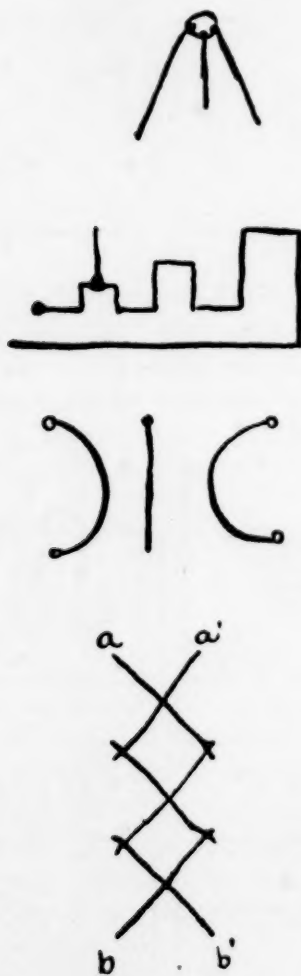


FIG. 16.

(a) Three metal rods on a ring to be placed upright in the form of a tripod.

(b) A metal rod to be removed and replaced on a ring, on a spiral, as shown in Fig. 16.

(c) Two half circles of wire, with loops in each end, to be joined together with a metal rod.



(d) The hinged, metal rods are placed before the subject and he is asked what will happen to points  $bb'$  when  $aa'$  are brought closer together. No opportunity for experimentation.

(e) The bell on a board is to be sounded, by making use of the hammer.

#### VIII. IMAGINATION.

37. Eight of the tests depend upon the imaginative completion of unfinished pictures (Fig. 17).

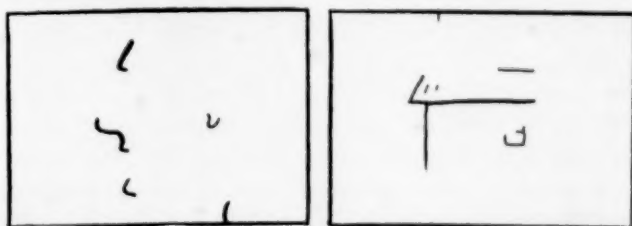


FIG. 17.

One requires the completion of a 10-word sentence from which four words are missing; and another the completion of a nine-letter word from which three letters are missing.

#### IX. OBSERVATION.

38. These tests also are based very largely on the interpretation of special pictures.

(a) A ship at sea—the subject is able to determine by the wave motion alone whether the vessel is moving or still.

(b) A stream with high banks—on one side footprints go down to the water, and on the other side stands a girl. The subject is asked whether the stream is deep or shallow.

(c) A card is spotted with colored dots, and none are arranged in regular order except the green ones which form a circle. The examiner asks if there is any order in the arrangement.

(d) On a card are several rows of digits with all the numbers up to 10 repeated several times, except seven, and the subject must discover that seven is entirely lacking.

## PART II.

## GENERAL DIRECTIONS—THE FORMULA—POSSIBILITIES OF METHOD.

The usual precautions with regard to isolation during the examination are given. Rossolimo lays particular stress on the importance of securing the co-operation of the subject, allowing for rest periods, and even modifying the tests slightly when it seems very desirable, because of individual peculiarities. For convenience in giving the tests he uses a desk with 10 drawers, so that the materials for the nine principal tests may be kept separate. He advises the use of the tachistoscope in all the tests where stimuli are to be shown for a few seconds, *i. e.*, for most of the perception and memory tests. This is an instrument with a movable diaphragm whose fall may be regulated to terminate the visual impression on the second. The score of an individual is affected indirectly by the speed of his reaction, and it is recommended that the time required for the performance of the various tests be kept in as many cases as possible. Dr. Rossolimo finds three and one-half hours the time required for the full examination, and advises that it be divided in three parts to be given under the same conditions on three different days, with one day intervening between each test. In order that the subject may not be distracted, and the examination proceed expeditiously, the immediate record throughout should be made by plus and minus, and the calculations for the psychograph worked out later.

The psychograph may be made out to show separately the entire 38 points investigated, but the condensed graph is less cumbersome and more expressive of striking variations (*cf.* Figs. 1 and 2). Finally, the results of the examination are put in their most concise form as a formula, whose derivation will now be explained.

$$P9 = (8.3 + 9.2 + 9.1) + 12 \text{ per cent.}$$

1. *P*, the index of the psychograph, is found by averaging the height of the nine processes.
2. The first figure inside the parenthesis represents the group, designated as *tonus*; namely, attention and will. Low rank of this group suggests some clinical type characterized by *aproxexia* or *abulia*.

3. Perception and memory are correlated, and their mean gives the third figure. A fall in this division is diagnostic of mental defect due to amnesia.

4. The five associative processes, viz., comprehension, construction, mechanical ingenuity, imagination, observation, are averaged to give the fourth figure of the formula. Decline in this score is fairly conclusive evidence of a low grade mind, or actual defect; normal persons usually make their highest scores in this group.

5. The percentage at the end represents the amount of forgetfulness, calculated from the memory tests when they are given the second time, at the expiration of one and one-half hours.

In discussing the value and possibilities of his method, Dr. Rossolimo seems to consider the age element of relatively little importance. However, he does state that the phase of development, education, etc., do affect the quality and quantity of the responses. Therefore, he recommends that the tests be modified in order that reading ability may not be requisite to success, and he has altered certain parts in order to give the illiterate person an equal chance with the educated.

The series of tests are admirable for their completeness, and the skill that has been exercised in isolating the different mental traits for examination, in so far as isolation is possible with factors so complex and interdependent as are psychic elements. The repetition of problems directed at the same mental trait minimizes the effect of chance and affords a good means of cross-checking the performance of an individual. But the tests in their original form are manifestly too voluminous for practical use. It is absolutely necessary to simplify the examination and reduce the time, if the tests are to be available for regular clinical examinations. Dr. Rossolimo has already advised the elimination of portions of the tests which seem less essential, or where reduplication occurs. On the basis of his suggestions, and by the use of a reduced set of the materials for experimental tests on a group of normal persons of fairly uniform ability, it is hoped that a satisfactory set of tests may be worked out, requiring less than one hour for presentation. Different variations in the materials and the method of presentation will be tried, in order that none of the essential factors of the original tests shall be sacrificed.

Dr. Rossolimo makes a full statement of the possibilities for examination of mental cases by this method.

1. It may be broken up into parts and used for the investigation of general psychological questions, where one uses single tests which permit the study of single processes in their normal course and variations in groups of persons.

2. Individuals may be classified as different types, according to the heights of the three groups of processes as indicated in the formula.

3. The profile of a single individual may be studied for its varying mental qualities, and perhaps some vocational guidance might be worked out by determining the best traits of the person and their possible combination in some type of employment.

4. The developmental levels of the same individual might be studied through a series of years.

5. This method lends itself to the investigation of certain psycho-pedagogical questions.

6. The nature and progress of mental defects can be determined by a uniform and accurate method.

7. This should be an aid in diagnosing pathological cases of mental deficiency, when the characteristic psychographs of different clinical types have been carefully determined by the uniform examination of a large number of cases.

8. These tests will be found of service where an objective method is found to be desirable in the investigation of criminal psychology.

### PART III.

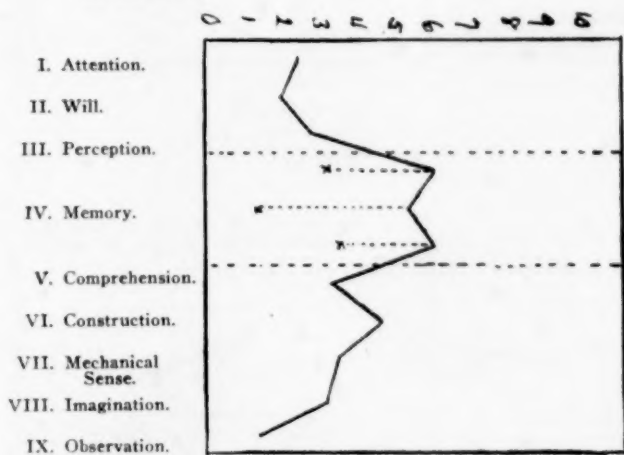
#### RESULTS OF THE USE OF THE TESTS ON INDIVIDUALS AND GROUPS; TENTATIVE BASIS OF CLASSIFICATION.

In so far as the psychograph of an individual exhibits typical variations from that of normal persons, Dr. Rossolimo determines the amount of defect in each case. The standard he uses as a norm was based on the examination of six normal individuals, ranging in age from 8 to 32 years. Such a small group is hardly sufficient to establish a norm, but inasmuch as the maximum score of 10 was reached by one or more of the six individuals in all the mental processes except will, it seems reasonable to conclude that the perfect score of 10 is humanly possible.

The results of the test given to a group of 94 defective children are of especial interest. He classifies their mental grade according to eight groups, the ninth representing normality. The rank of an individual is determined by the first figure in the formula, the index of the entire psychograph, found by averaging the heights of the nine processes. In this group of 94 children, there were five classes based on school standards.

- (a) 18 obviously subnormal or defective (Fig. 18).
- (b) 53 retarded, making very little progress (Fig. 19).
- (c) 3 inattentive (Fig. 20).
- (d) 9 lazy (Fig. 21).
- (e) 11 immoral or criminal tendencies (Fig. 22).

—  
94 children.

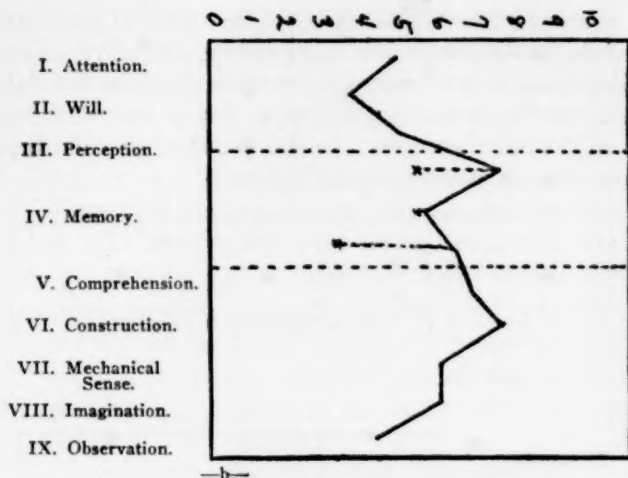


—a—  
18 defective children.  
 $P\ 3.4 = (2.2 + 4.4 + 3.4) \div 43.3\%$

FIG. 18.

Their distribution in the eight groups was:

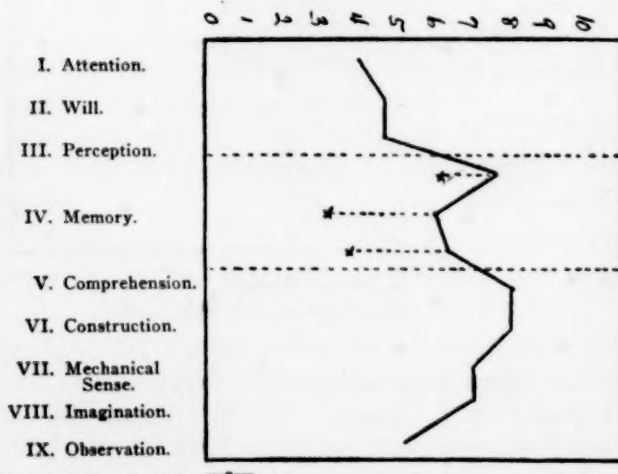
Group.	Number.	Class.
I	2	a
II	4	a
III	10	a and b
IV	14	a, b, c
V	21	a, b, c, d, e
VI	27	b, c, d, e
VII	13	b, c, d, e
VIII	3	d, e



53 retarded children.

$$P\ 5.8 = (4.3 + 6.07 + 6.06) + 34.8\%$$

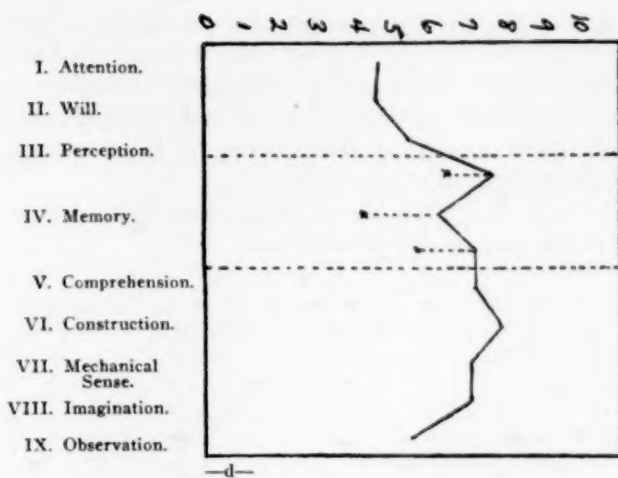
FIG. 19.



3 inattentive children.

$$P\ 6.25 = (4.2 + 6.2 + 7) + 35.1\%$$

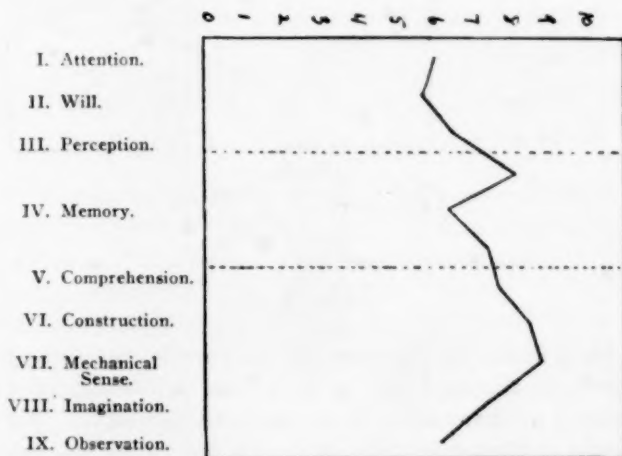
FIG. 20.



9 lary children.

$$P\ 6.4 = (4.7 + 6.4 + 6.9) + 21.1\%.$$

FIG. 21.



11 immoral children.

$$P\ 7.1 = (5.8 + 7 + 7.7) + 23.3\%.$$

FIG. 22.

Groups I to IV represent idiocy and imbecility of varying degree, which does not yet preclude the possibility of pedagogic influence.

Groups IV to VI are made up principally of that type of defective or dull children who will never make progress in school. Any case which fails to rise above Group VI is to be classified as feeble-minded, probably from birth.

Groups VII and VIII contain those individuals who are defective in only one or two mental traits.

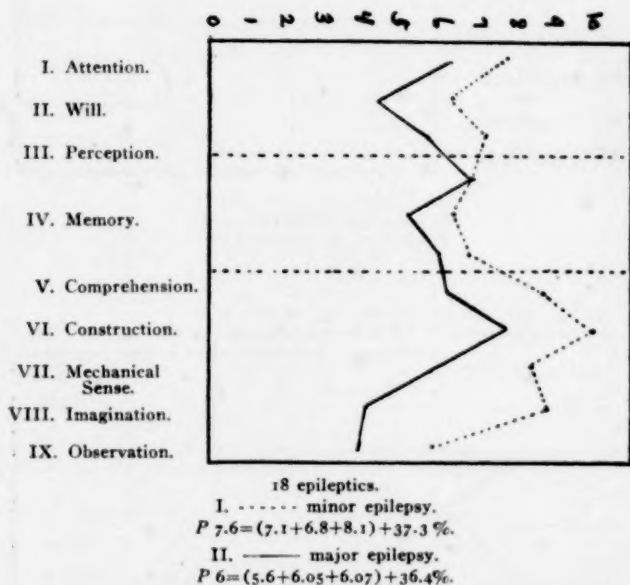


FIG. 23.

The harmonious development and relation of the three groups of processes is characteristic of the normal individual. The average person's performance will probably not exceed 9+, but there is generally evident a gradual rise in the line of the psychograph. Attention, will and memory are frequently low in relation to the associative processes, which bring up the index to normal. Any very marked deviation from this general rise is significant.

Dr. Rossolimo seems to find the tests most interesting in establishing the profile which is characteristic of clinical types of

mental defectives. For example, he gives collective and individual psychographs, based on the examination of 18 epileptics, to show the different mental status induced by major and minor epilepsy (Fig. 24). Another graph, which is self-explanatory, shows the mental status in the three stages of progressive paral-

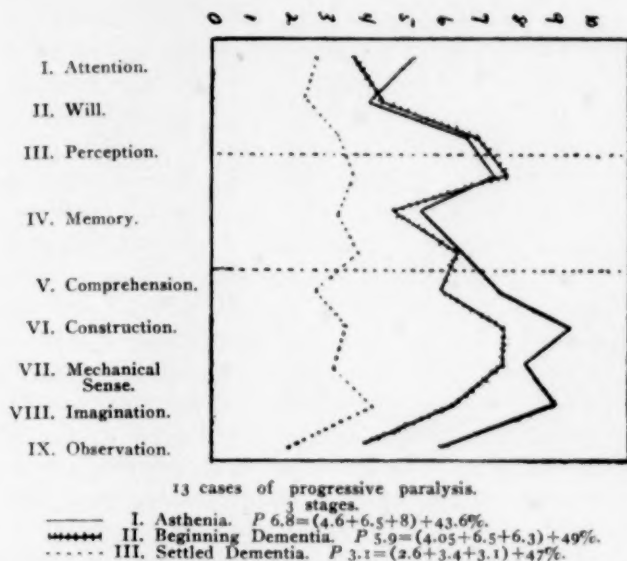


FIG. 24.

ysis. His articles also contain psychographs to show the effect of a short period of treatment in raising the psychic index, but it seems probable that the rise is partly due to the fact that this is the second experience with the tests. It is a matter for regret that nothing more has been published by Dr. Rossolimo within the last three years, so that the extent of his progress in standardizing the tests is unknown.



## FURTHER RECOLLECTIONS OF A PSYCHIATRIST.

By JAMES M. KENISTON, M. D.,

*Connecticut Hospital for Insane, Middletown, Conn.*

The, to writer, unexpected interest manifested in many ways by numerous readers of his previous article,<sup>1</sup> and requests for more, seem to warrant a continuation which will bring them up to date. In so doing I must record more in detail some personal history which, for lack of space, was omitted, but is, from my point of view, essential.

Arthur Christopher Benson says: "I have lately come to perceive that the one thing which gives value to any piece of art, whether it be book, or picture, or music, is that subtle and evasive thing which is called personality. . . . It may be asked why I should obtrude my point of view in print; why I should not keep my precious experience to myself; what the value of it is to other people? Well, the answer to that is that it helps our sense of balance and proportion to know how *other people* are looking at life, what they expect from it, and what they do not find. I have myself an intense curiosity about other people's point of view, what they do when alone, and what they think about. Edward Fitzgerald said he wished we had more biographies of *obscure persons*.

"I have grown to believe that the one thing worth aiming at is simplicity of heart and life; that one's relations with others should be direct and not diplomatic; that power leaves a bitter taste in the mouth; that meanness and hardness and coldness are the unforgivable sins; that conventionality is the mother of dreariness; that pleasure exists not in virtue of material conditions, but in the joyful heart; that the world is a very interesting and beautiful place; that congenial labor is the secret of happiness; and many other things which seem, as I write them down, to be dull and trite commonplaces, are for me the bright jewels which I have found beside the way."<sup>2</sup>

<sup>1</sup> American Journal of Insanity, Vol. LXXII, No. 3, Jan., 1916, p. 465.

<sup>2</sup> From a College Widow.

My paternal grandfather was a deist, a Knight Templar, well versed in dialectics and history, of marked individuality, able to argue on every side of a question, and an interesting and efficient speaker. Living next door, I saw him every day going to or coming from school. He made a companion of me, and, even from my childhood, made me feel as if I was on an intellectual level with him.

My maternal grandmother, when widowed, made her home with us until her death, which occurred while I was at Phillips Academy, Andover. It was my duty, and pleasure as well, to carry up her daily supply of wood, and render such other attentions as a boy could give. But my special duty—sometimes hard—was to read a chapter from the Bible morning and evening, and an extra reading on Sunday afternoons when, from "Sunday sickness," I was allowed to refrain from church. On rare occasions—not as often as wished—when very tired, I would select the 117th Psalm, of two verses only. I just loved that psalm.

My parents, as well as most of our neighbors, were excessively puritanic; cards were looked upon as the Devil's Bible, and dancing as a downward path to hell. On seeing a schoolmate (Emma P.) dancing at a May festival in the City Hall, I recall my wonder that she did not drop dead. Theater-going was practically moral suicide, and as for a circus—well! I recall Deacon Jones and my father escorting me down back streets, and sneaking into the big tent, carefully looking about to note if any member of the church was spying on us! Nothing hideous happened, and we managed to eat supper with our usual alacrity. But in spite of this rigid theological bondage, we were often cheerful and occasionally gay.

As my kind father was a very busy man, he left my "bringing up" wholly to my mother. Having a lovely voice—not inherited by me, alas!—she sang in the choir, and every evening would sing for me, thus fostering my later intense love of music. At the age of six she took me to the public library and asked the librarian to select suitable and interesting books for me. He was very kind, but often I wished he would practice interest more than suitability. Sometimes I smuggled prohibited books into the house, but found them harmless. French novels were considered beyond the pale, and I never read one till I went to Butler Hospital, where,

after reading a long appreciation in the *Westminster Review*, I took up "The Three Musketeers," and sat up nearly all night reading it. To Dr. Sawyer's comments next day on my wan looks, I only replied I had not slept well, which was absolutely true. As a result of reading this book I read over seventy volumes of the histories and memoirs of that stirring period. But such style as I possess is largely due to the beautiful English of the King James Version, and I have never been able to appreciate or like the late revisions.

My mother never whipped me but once, and as a prelude assured me I had been aching for this for some time, but I could not recall any preliminary suffering, either mental or physical, which seemed to me to necessitate castigation. My father once tried to whip me, but his technique reminded me (later on) of the boy who asked his father to whip him in the style of the Italian system of penmanship—upward strokes heavy and downward light.

But my home was very comfortable, my young life was very happy, and ever since my homes have been the sweetest places on earth. Among my recreations were skating, swimming (could swim a mile without resting), boating, cricket, and reading. This very quiet life ended when I went to Andover at 14.

I left Butler Hospital in August, 1871, and after a rest in the country, made a long trip to the West, scouting around for a place to settle. I made frequent stops—at Buffalo, where I was a guest of Dr. Julius Miner and had the pleasure of meeting his assistant, Dr. Brush; Cleveland, Detroit, Cincinnati, Louisville, St. Louis, Omaha, and various other cities and towns. At that time medical societies were rare, physicians did not seem to me to cooperate or associate as now, and I found no situation which seemed desirable. The level country and the absence of hills were not attractive, and I determined to settle in Massachusetts, where I could be near my friends. If I had to starve, the process seemed less painful in good old New England.

After careful investigation I decided to try my fortunes in Cambridge, where I located on November 12, 1871. I secured a combination sleeping and sitting room, with use of a back parlor for office calls, and hung out my sign. I had saved enough from my salary at Butler to run me for a while and faced the future calmly and cheerfully. On January 1, 1872, I married a young

lady whom I had known for many years, our parents being intimate friends and neighbors. As I look back on this step in the light of prolonged experience of the uncertainties and difficulties often attending medical practice, I am amazed at my courage. But had I been able to foresee, and considered my action solely on the ground of utility, I could not have been more fortunate. My wife was and always has been my greatest comfort and support—my best asset. To her I owe practically all I am and have acquired. Always sympathetic, devoted to my interests, a careful and thrifty manager of the household, she made even the dark days which are sure to come in the early career of a doctor endurable and even brightened.

In April we secured a house in a central location just off from what is now Massachusetts Avenue. To my unbounded surprise, the wife of a deceased patient at Butler, grateful for my attentions to him, called on us soon after we were settled and gave us a check for \$200, and later sent her husband's desk and chair. Certainly a good omen.

In thus entering on my professional career I had formulated a guide for conduct which was partly the result of personal experience and in part the effect of scholastic and medical instruction. I had read many times the Hippocratic Oath, as well as the code of ethics of the American Medical Association, and had vowed to live up to them to the extent of my ability. I had met some doctors who were unethical, and had discovered that their financial methods did not compensate for the loss of character and reputation. The influence of my teachers—high-minded gentlemen—and my four years under Drs. Miner and Sawyer now proved invaluable.

At this time Cambridge had a population of about 50,000 people—and enough doctors. I, however, received a cordial greeting from the latter, many of whom—especially the elder—also offered their advice and assistance, and not only sent me an occasional patient, but also—a few of them—gave me an opportunity to relieve when they took a vacation. This gave me some prestige and, what was also important, the privilege of collecting fees for what I did. As there was no pathologist in Cambridge—specialists were then almost unknown—for several years I made most of the autopsies, until my friend, Dr. Alfred Holt, abandoned

general practice to devote himself wholly to this line of work. He was the first medical examiner appointed, and always secured me to take notes and furnish reports of all his work, which brought me some very acceptable fees. He also gave me the run of his very large and valuable library, which contained much besides medical works.

My generous welcome confirmed my determination to adhere to a certain line of conduct, which can be best outlined here. In the first place, at Butler I had treated numerous alcoholic and opium habitués, and some of these had acquired their disease from careless or thoughtless doctors, becoming mental and moral as well as physical wrecks. Dr. Morrill Wyman, who introduced thoracentesis, once said to me, "Opium is the lazy doctor's substitute for rational treatment." Hence, in my ten years of general practice I never gave alcohol in any form to any patient under the age of 65, unless in very small quantities and mixed with some other drug which would conceal its odor and taste. Using opium in any form very seldom, I never gave more than an ounce mixture, containing eight doses. In both cases the bottle was marked "not to be refilled without new prescription." There are not, and never have been, any alcoholic or drug fiends on my conscience.

I had seen so much deceit and lying in the commitment of patients to the Butler Hospital that I adhered strictly to the invariable rule *never to deceive a patient*. Not that one must always tell all the truth, for often this might react very unfavorably, but that what one does tell a patient should be absolutely true. This is even more beneficial in children, who have too often heard a doctor say: "Now let me have some of that nice medicine!"

Another rule was to avoid newspaper and other forms of advertising. Some doctors—a very few—seemed to get their names many times a year in the papers; as treating Mr. A.; operating on Mr. B., and so on. One physician used to say whenever one met him: "I have had three obstetric cases to-day." He did have a large practice in this line, but did not talk about it so much when, on his late entry (this was his usual custom) at a meeting of our local society, making his usual statement, I said: "You must have cases throughout two counties, Suffolk and Middlesex, as I have figured it from our birth reports that you have had several hundred cases more than happened in Cambridge, and our thirty

or more members have all had a few cases." The doctor laughed, and replied: "Well, I guess I have seemed like Baron Munchausen."

Again, I resolved to limit myself as largely as possible to family practice, calculating that on an average income of \$40, 50 families would give a reasonable living. Our rates then—adopted by the Cambridge Society for Medical Improvement—were: Day visits, \$2; night visits, \$3 to \$5; ordinary office calls, \$1; obstetric cases, \$20, including four after visits; and surgery, as much as we could get. Dr. Allen retired soon after I came, and turned over to me about 25 families, including a famous photographer, who had a practical monopoly of celebrities, largely theatrical. This led to my getting some business in Boston from actors, who at this period formed quite a colony on or near Bowdoin Square. As a side issue, it gave me more passes to theatres than I could use.

Each year I had one big event. For example, when a threatened epidemic of smallpox occurred in 1873, I was given two of our five wards to vaccinate school children and anyone else who would permit it. As the older, well-established men did not care to attend such cases, many were turned over to me. Prices were doubled during the six weeks the scare prevailed, and I made enough to pay all my expenses for that year. While I did not get rich, neither did I starve. As I had more or less leisure, I devoted some time to general literature and music, for I soon discovered that I could benefit my clients by telling stories or quotations, etc. I became secretary, treasurer and librarian of a large amateur orchestra, composed of our best men, and we held a rehearsal on Saturday evenings from October to May. Further, my wife and I managed to hear all the famous actors and musicians who visited Boston, including Edwin Booth, Ristori, Rubenstein, Wieniawski, and others. If a doctor, in addition to technical requirements, can carry into the sick-room something about the outside world—real or imaginary—he can do much good, provided he knows when to talk and when to refrain.

In 1871, and for several years after, every doctor wore a single-breasted black frock coat and suit, and a black silk hat, throughout the year. One could thus pick out a doctor at once, being limited only by the range of one's visual powers. Those of us who had

not attained the lucrative position of our elders patronized "Slocomb, the Hatter. Your old hat and three dollars," getting two hats a year; and very good hats they were, not distinguishable, except by experts, from the \$10 tiles affected by the élite. Nowadays one can wear any old cap and suit, if he has an auto, and escape criticism. But not then—not then. House rent was our greatest expense, as a doctor had to live in a good locality, and no general practitioner then dreamed of the present custom of an office more or less remote from his dwelling. Food, fuel, lights, clothing—all were high, but we managed to live, and can look back to those early days with pleasure as well as profit.

In those days it was much easier to get into a hospital for the insane than to get out. The commitment was a very simple affair, requiring only one doctor's certificate. My experience at Butler eventually brought me quite a fair business, including occasional medico-legal cases. Here again my personal experience of the deceptions practiced by relatives of patients and, I am sorry to say, some doctors, showed conclusively that, as far as my own influence went, absolute truth, and that only, should be used. May an example or two be permitted?

The father of one of my best families became a victim of melancholia. One of the kindest and best of men, he thought he was hopelessly lost; had always led a bad life; was of no use; was afraid to live, and still more afraid to die. He contemplated and threatened suicide, and made several attempts which were aborted by his dread of pain. As often occurs in such cases, even now, his wife and children endeavored to conceal this disorder, until finally, worn out by their efforts, they sent for me. I told Mr. A. that he was a sick man, his disease affecting chiefly his brain, and that for his own sake, as well as the health and safety of his family, it was imperative that he must go to a hospital. He demurred vigorously, and, in fact, said he would not go. He was then told that the next morning a policeman, in plain clothes, would come for him and take him to Worcester. If he showed no resistance he would not be restrained in any manner, but go he must.

I accompanied him to the train, as decided. He made no fight, as I had feared, but as I took my leave he said: "Doctor, I had thought you were my friend, but now I consider you a rascal. If

ever I get away from the hospital I will kill you if possible." Again I explained to him the need and kind of treatment he would receive at the hospital, and gave him some "helpful suggestions." About a year later, one noon, I saw him coming up my walk. I had not known he had been discharged, but prepared for the worst. I rushed to the door, planning to get so close to him he would have—I hoped—no chance to use knife or pistol. To my unbounded surprise, but great gratification, he greeted me with a cordial smile, held out his right hand, and said: "I have just come alone from Worcester, and have come to see and thank you, before going home. I felt very bitter towards you for a few weeks, but when I saw other men brought to the hospital by deceit and lies, I began to reflect. I remembered what you had explained to me, and above all your saying I owed it to myself and family to try to get well, and that I could get well. As long as I live I shall be grateful." This man lived for many years, attended to his business, and had no other attack.

The wife of a prominent citizen had gradually developed a system of delusions of persecution, centering around continuous and insidious attempts to poison her. She imagined that all her provisions were tampered with, and she was afraid to eat anything without submitting all dishes to thorough investigation and various precautions, many of which were absurd and inadequate, in order to remove all noxious or poisonous conditions. Later on she began to refuse admittance to her house of any one except her husband, chaining and locking doors and windows. So much time and watching was devoted to this that she gradually ceased to care for her household. Fortunately she had no children. Soon she made things so uncomfortable that her servants left her, and her husband was obliged to get his meals at a restaurant. He had called on several physicians to examine his wife, with a view to commitment, but not one of them could contrive to get into the house, even when accompanied by the husband, who was finally suspected of being in the plot against his wife.

Finally, having heard of my hospital experience, he called on me and asked if I could help him. Money was no object, but only relief from unbearable conditions. I, therefore, called at the house, alone, rang the bell, and, when Mrs. — opened the door a little, inserted my foot to prevent its closure, and said: "I am

deeply interested in the pure food question, inasmuch as there have been many complaints from various quarters of adulterations, etc., which are pernicious and dangerous to the community. I am a physician and am studying this question largely in its medical aspect." Mrs. — immediately opened the door and said: "You are just the man I want to see. My life is in constant peril. My food is tampered with and now I can only eat boiled eggs. I am expecting every day they will manage to insert poisons through the shells, and then what can I do?" Mrs. — was coherent, perfectly conscious, and had no hallucinations or deterioration. She presented what we now call a paranoic condition, and was to be regarded as dangerous, as it was only a question of time when she would abandon her self-isolation for active premeditated efforts at self-defense, which might and probably would involve manslaughter. A commitment paper was signed, Mrs. — was duly informed and was removed to a hospital, where she remained the rest of her life. Here what I said was absolutely true, but I did not feel it my duty to tell patient *all* the truth. On removing her from her home, however, I told her she had a mental disorder, and was, therefore, a sick woman, and she must go to a hospital, as she could not be cared for at home properly or safely. I also gave her some advice and helpful suggestions.

The grateful husband did not hesitate to inform his large circle of friends of my success, and this led to my receipt of many consultations and investigations along this line, and also to some medico-legal work. In addition, I had furnished data to a legal friend, William H. Martin, which enabled him to win a suit for damages from the Union R. R. Co. This led to the company appointing him as their legal adviser. He accepted the position only when authorized by the company to settle all suits in accord with justice, honor, and impartiality; and out of court whenever possible. He also insisted that I should, in every case of claim against the company, be his medical adviser. The company agreed. I was authorized to buy any medical books needed, and to charge up all my expenses in the preliminary investigations, and to receive in addition the regular fee (\$25) for each day in court. In very difficult cases I also was allowed to employ experts. This plan worked well, not only for Martin and myself,

but as well for the company. During the six years this compact existed only three cases went to court, and these were lost by the claimants. There were no legal quibbles, no cross-examination, no chicanery; simply a heart-to-heart talk between all involved, and a determination on the part of the company to exhibit justice tempered with sympathy. This method reduced its accident expense account very materially, and also gained it great prestige and increased receipts.

In those days the ridiculous and inappropriate "hypothetical question" had been in vogue for a few years only, and even then proved to be an abhorrent and unscientific method. I protested against it without success. Again, some "experts" could be found to testify on any side of a case, and this inflicted a stigma on those upright, honest, efficient specialists whose sole aim was to "tell the truth, the whole truth, and nothing but the truth," and who, therefore, before the case went to court, informed the legal counsel of every detail pro and con.

In one case I had informed my patient and his lawyer, Mr. H., that he had no chance for a favorable verdict, in view of one special feature. "If you ask a certain question I shall answer it in the negative. If you don't ask it, it will be asked in the cross-examination. Why don't you settle the case, as the defendant has offered you liberal terms?" My advice was refused. When I was on the stand Mr. H. asked this question. In accord with my ethical code, I could do no more and no less than tell the truth. I can see now the experts on the other side—one of them Dr. Henry O. Marcy, the well-known surgeon—lean forward to catch my answer. It was "No." This, of course, wrecked the case, as I had warned Mr. H. In the final pleas the counsel for the defendant, ex-Governor Gaston, said: "I have often disapproved and sometimes despised the evidently biased testimony given by some experts, who will try to make black appear white if they are well paid. But to-day we have seen an honest medical witness, who was not swerved from his sworn duty by any consideration." He uttered more words of commendation, and ended his very brief plea. After the court adjourned he sought me out and said: "I want to shake hands with you, and convey my respect and best wishes."

On another case—an attempt at murder of one of my regular patients—the counsel for defense endeavored to embarrass me by pounding the rail and shouting, and finally yelling at me. Being “by the grace of God a man of peace,” I paid no attention to his unjustifiable manner at first, but finally said to him: “I shall refuse to answer any more of your questions until you can couch them with ordinary decency. I am here to tell the truth, and intend to do so.” I then turned to the judge and demanded and received his protection. The defendant was sentenced to seven years in the state prison.

Just a few more allusions to my Cambridge career. After the smallpox scare I was, with one doctor from each ward, appointed an “advisory health officer,” to clean up the city and promote all necessary sanitation. When the dispensary was organized I had for two years the department for outside patients in my ward, receiving therefor the salary of \$200 per annum! I then took my turn in the central service without pay. For several years I was secretary and treasurer of the Cambridge Society for Medical Improvement. I also wrote editorials and special articles for the *Chronicle*, a weekly paper owned by one of my patients, Lynn Boyd Porter, a very bright and witty man. On one occasion he took a vacation, and asked me to run the editorial department. I was a Democrat and he a Republican. On leaving, he soon came back, rang the bell vigorously, and said: “For Heaven’s sake, don’t change the politics of the paper.” And I did not. For two years I acted as assistant to the musical critic of the Boston *Sunday Times*, thus having tickets for all that was best in music. Many of my effusions were quoted by journals all over the country, and twice in English papers. On the two hundred and fiftieth anniversary of the settlement of Cambridge, I helped organize a special orchestra for the ceremonies, which lasted from 10 a. m. to 10 p. m. In the afternoon several hundred school children sang at Sander’s Theater, in honor of Longfellow, Holmes and others, and the Superintendent of Music in the schools asked me to play the accompaniments, much to my surprise. In addition to a fine letter of appreciation, he sent me a copy, in his own hand, of one of his compositions for this event. I still have this music in one of my scrap books.

As said before, all this outside occupation not only did not interfere with my family practice, but helped me in gaining a large outlook, a more extensive point of view, and even a larger and more lucrative clientele. Meanwhile I kept in touch with Dr. Sawyer by correspondence and visits. In my tenth year I began to feel the strain of my strenuous life, and my thoughts often reverted to my psychiatric experiences, which seemed more and more attractive, both in retrospect and anticipation. In 1879 I had received the offer of a position at the Poughkeepsie State Hospital, which I declined because I could not have my wife and son with me. The next year I had a similar offer from Dr. Godding, a personal friend, Government Hospital, Washington, which I also declined. In August, 1882, I had another offer from Dr. Godding, but I had already accepted and begun service at the Connecticut Hospital for Insane. I was recommended for this place by Dr. Earle, an intimate friend and adviser of Dr. A. M. Shew, superintendent. Curiously enough, I had never met Dr. Earle, nor did I ever meet him, but he was familiar with my record at Butler Hospital, and told Dr. Shew he thought I was the man he was looking for. After I had been here a few months Dr. Shew seemed to feel this was true, and therefore persuaded me to decline Dr. Godding's offer.

My earliest experiences here were not only illuminating but inspiring. I found Dr. Shew a very remarkable, an unusual, man, as many still living may recall. A cultured, polished character added a charm and glory to his wonderful executive ability. Considerate, courteous and kind to every one connected with the hospital, from the medical staff to the humblest employee, he won their confidence and loving regard, and almost without exception every one here endeavored to cooperate in our noble work according to his ability. As Napoleon's soldiers in Egypt embraced him to protect him when a shell burst near by, so would any or all of us have stood between him and danger.

Dr. Shew also possessed tact to the utmost degree. Always dignified, serene and cheerful, he knew well how to meet "all sorts and conditions of men." The complaints of unreasonable or poorly informed friends of patients were settled by him with a patient explanation which banished ill-will. Many who came to scoff or upbraid went away his ardent friends.

Dr. Shew, in addition to those supreme and essential qualities for a superintendent, displayed firmness and even-handed justice. He rightly held every one to a thorough and undeviating responsibility, and in turn sustained and encouraged all who endeavored to be "good and faithful servants." If reproof were needed it was given in private, mistakes which were real and not deliberate infractions being forgiven, but not condoned, and good advice was given. When an employee had to be discharged he was given the reason and encouraged to redeem himself. Never did anyone, whatever the breach of duty, hear one harsh or angry word from Dr. Shew.

As for his standing in his specialty, he was far in advance of his time—conserving what was of true value and yet pressing on towards the highest goal. A perusal of his annual reports would well repay the reader—so clear, concise, accurate and helpful.

An element of success of incalculable importance to any hospital was the fact that at this time (1882) our board of trustees was exceptionally, yes, ideally, constituted. Every member was a tower of strength, a devoted worker, a wise counsellor, a good man. All worked together as one man—no one striving, as is too often the case, to dominate all or a majority of his associates, but each and all striving to act solely for the uplifting and strengthening of the hospital.

These men supported Dr. Shew heartily, wisely, and efficiently, all being intelligent in their respective lines—men of affairs—and therefore relying on him to educate and inform them of the best and latest methods of caring for the insane. New problems were frankly discussed, and action taken only after the approval of the superintendent. Where occasional natural differences of opinion occurred, the matter was always compromised or amicably settled.

Again, every official meeting was at that time attended by every trustee, and each member displayed an interest in the medical staff—something which does not always occur. Each man made us feel—nay, to know—that he had a deep personal interest in us, a kindly regard for our welfare and comfort, and a really remarkable insight into our duties and responsibilities. At the regular quarterly meetings all the members, as a rule, remained for dinner, to which the medical staff were invited, and in the afternoon

visited the wards. These were "red-letter days" with us. Let me record their names, which even now may be familiar to some:

Hobart B. Bigelow, New Haven.	Lucius S. Fuller, Tolland.
R. S. Fellowes, New Haven.	Rev. Samuel G. Willard, Colchester.
Henry Woodward, Middletown.	Richmond M. Bullock, Putnam.
Robbins Battell, Norfolk.	Elisha B. Nye, M. D., Middletown.
James G. Gregory, Norwalk.	J. W. Alsop, M. D., Middletown.
H. Sidney Hayden, Windsor.	Ex-Gov. Benjamin Douglass, Middletown.

All these have gone to their rest, but their works live.

"Only the actions of the just  
Smell sweet, and blossom in the dust."

My associates on the staff were Dr. James Olmstead, afterwards superintendent; Dr. William E. Fisher and Dr. Charles E. Stanley, the two latter still remaining. I was given charge of the New (now Middle) Hospital, which had been opened in 1881. As I look back over the long years, I realize more and more how much they helped me, and how strong are the friendly bonds which are still intact.

My house—if I may be warranted in calling mine a place where I have lived the greater part of my life—was built on the pavilion plan. A large "center" building, with a clock-tower, was flanked on either side by wings containing three wards. Male patients were housed in the north wing, and female patients in the south. These wards had 41 beds—nine in single rooms, and eight in each of the four dormitories at the ends of the wards. In addition, a small ward of ten beds was utilized for female convicts, if necessary. To-day I have under my care 253 men and 241 women—a total of 494! This might be called overcrowding!

One great feature in the wards was the large day-room, 30 feet wide, with several large windows facing the west, which gave a splendid outlook and plenty of light. The dormitories were also large and light, and the single rooms were of ample size. There were no "dark rooms" or "cells" anywhere. A few back rooms were fitted with inside window guards made of a coarse mesh wire which did not materially diminish the entrance of light.

Dr. Shew, without any blowing of trumpets, was one of the few pioneers in the diminution of the so-called mechanical restraint to a minimum, and hoped and worked for its total abolition. The total amount was reduced to one-quarter of 1 per cent, and I shall

never forget Dr. Page's astonishment at this record in 1898, when he succeeded Dr. Olmstead. His own record as a total abolisher made his commendation the more valuable. I may mention here that he was more than pleased when he found on my records that only 22 doses of paraldehyde—the only hypnotic I used—had been given during the previous 12 months.

In my second year here I suggested to Dr. Shew that in view of the fact that there were several male epileptics in my care, and as many more in the main hospital, it would be a good idea to fit one of my wards to house all of them. As usual, I found that he had been considering this matter, and the change was made. The two north dormitories were set off for this purpose, and a special night attendant was properly trained, thus enabling us to have every epileptic under skilled observation every minute of the 24 hours. Special books were provided for recording the number of seizures by day and night in each patient, with such special or formal notes as were required.

It had been the custom to give every epileptic—as a matter of routine—bromides three times a day. After a few years I abandoned their use entirely, and have never regretted it. While under bromide the seizures diminished in number and sometimes in severity, patients were more irritable and violent. Conflicts and fights with resultant bruises were frequent. Now we have only one altercation where we used to have twelve, and the entire atmosphere of the ward has changed. Our number now averages 35, but one would hardly know it. In the intervallary periods, with very, very few exceptions, the epileptics are composed, and many of them are valuable workers on the ward, and some on the farm, or in separate work-rooms. After so many years' experience I can assert with confidence that over three-fourths of our male epileptics could be properly cared for in the Colony for Epileptics at Mansfield Depot.

The best two measures for the treatment of our patients—occupation and diversion, and, where possible, a combination of the two—have always had the fullest prominence, to the extent of our means. In 1882, and for some years later, we received \$4 weekly for the support of each patient, in addition charging for clothing needed, either to friends or the town from which they were committed. Some years later selectmen ascertained that the

word "support" included *everything* necessary for maintenance. Since then no clothing has been furnished by the towns, thus greatly increasing our financial difficulties. This misfortune was aggravated by the fact that just before this *discovery* the price of support had been reduced to \$3.50. This necessitated more dependence on our farm, which had to be enlarged from time to time. The crops did not represent all the profit. As many male patients as could be interested were given occupation. The mental and physical improvement was and is too well known to require further mention, nor need I describe all the varied means of diversional occupation now in vogue. We now have a specialist who devotes her whole time to this work, and recently she gave an exhibition and sale, ranging from fancy work to cement work, and even sculpture.

Music has played a great part here from the very beginning. Choirs, orchestras, brass bands and singing classes have contributed their share, and innumerable concerts in and out of doors have been given since I came, not to mention orchestral music at dinner and supper in our large congregate dining-room. It has been my privilege to participate to some extent in this line.

During my career I have seen four superintendents come and go, and the present incumbent, Dr. C. Floyd Haviland, is just finishing his first year of service. Each had strong characteristics, each had progressive ideas, and each in his own individual way strove for the best interests of the hospital, conserving what had borne the test of time, but with minds open to and "hospitality for new ideas" and methods. My relations with all have been cordial and agreeable, and work has thus been a pleasure. Confident of my own loyalty, I have received equal loyalty, mutual confidence, and hearty cooperation.

The recent publication of the first volume of "The Institutional Care of the Insane in the United States and Canada," to be followed by three more in due season, reminds me that I am not writing history, and I therefore close. May health, happiness, prosperity and success be and abide with every one who is in any way caring for the mentally disordered.

## Notes and Comment.

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SEVENTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—The next annual meeting of the Association will be held in New York at the Hotel Astor, May 29, to June 1, 1917 inclusive.

Dr. Wagner, the President, and the Committee of Arrangements are already busily making preparations for the meeting. The room which has been selected for the meetings is admirably adapted to the purpose and adjoining is a large room for the diversional occupation exhibit.

The fact that the American Medical Association meets in New York the first week in June, 1917, will no doubt be to some of our members an additional incentive to attend the meeting of the Medico-Psychological Association.

MILITARY TRAINING AND MENTAL TRAINING.—It was eminently fitting that the oldest society (National) of physicians in this country should take the initiative among medical organizations in promoting interest in the now rapidly growing movement toward universal military training. The resolutions adopted at the New Orleans meeting of the American Medico-Psychological Association were promptly introduced into the literature of the National Security League and the Association for National Service and have received high praise from Senator Chamberlain, father of a bill in the United States Senate looking to the practical fruition in legislation of the hopes of a large body of patriotic American citizens—that of supplying a national need through building upon a secure foundation.

The recent mobilization of the militia, the transportation of troops to any state rendezvous, and from there to the Mexican border have demonstrated anew the lack of system, of equipment, and of transportation facilities, in brief, the lack of preparation for actual service, of our military establishment. These are largely faults of bureau (dis)organization and represent absence

of cohesion, blundering, and inefficient management. All this it is hoped, may in due time be corrected by legislation to iron out present inconsistencies, to unify military activities, and place responsibility for results with a staff of military experts which shall have means and facilities at its command to meet emergencies.

Preparedness, however, is not alone a collective matter. It has a personal side. No one can gainsay that the quality of the militia of the different states is excellent. The local organization with which the writer is most familiar, is made up of some of the best material in the community. These young men have started as other commands have started to their rendezvous with enthusiasm and inspired by a thorough-going patriotic spirit. However, there are in the Michigan camps as in those of other states, manifestations of irritability and unrest. These troops bear badly the waiting which is necessary in order to perfect in drill, to enable those in high command to decide upon relative availability and as to positions later on to be occupied at the border. Such waiting is obnoxious to enthusiastic American militiamen whose ideal is action and again action. The newspapers are filled with complaints from soldiers, of inactivity, of the provisions which are furnished, of camp sites, of lack of medical services, of one thing and another. Doubtless many of these complaints are more than well-founded and are due to the higgledy-piggledy muddling along in military matters for which Congress is responsible. Other complaints on the contrary are badly founded or if with a basis in fact are unnecessarily magnified by the citizen soldier in consequence of lack of training, lack of discipline, and lack of ability to accept adverse conditions, to make the best of that which is present and to hope for better things. *This is a state of mind* and it is exactly this among other things which universal military training at a receptive age would correct. The habit of endurance, the habit of submission to authority, the habit of self-control would be inculcated by well directed military training in early life. It ought to be obvious to the most contemptible mind that these are worth-while attributes and should be encouraged. Even the most pusillanimous pacifist, himself entirely destitute of them, might admit their desirability for his neighbor.

In a broad discussion of the psychology of this matter upon which the Association represented by this JOURNAL may be sup-

posed to speak with authority, the question of symbolism compels attention.

The flag is the symbol of governmental authority, and marching under the flag, discipline under the flag, respect for the authority of those into whose hands the keeping of the flag is committed are the equivalent of loyalty. There is no shadow of doubt that had the second generation of foreigners in this country been required to submit themselves to training under the American flag, there would have been no harking back to the methods and aims of other governments. At all events, the mischievous influence of their elders in this direction would have been ineffective. The boy's allegiance would have been given without reservation to the government under whose flag he had been drilled and disciplined.

The movement for universal military training has made gains by leaps and bounds during the past year. At the first National Security Congress in Chicago in the fall of 1915, the matter was barely mentioned. There were other for the moment more weighty and pressing considerations to absorb the attention of the organization. By January, 1916, however, when the second Congress was held in Washington, sentiment was so crystalized in this direction that it was a frequent theme under discussion and its importance was conceded with scarcely a dissentient voice. The attitude of mind of the general public is now separated by leagues from that of the Oregon schoolma'am who, after the visit of a notorious pacifist, objected to the children walking from the school room two by two because it "savored of militarism." Active and urgent propaganda must be continued, however. Broad vision is a gift of the gods. Relatively few people quickly absorb a truth at the time of its first presentation though back of it may be the weight of high authority. A platitude "he kept us out of war" is in certain places more influential than the thunders of a Roosevelt. Repetition, repetition, and again repetition will be required to have national security, sounder minds in sounder bodies, and larger loyalty among the American people through universal military training. Its advent will enable Porter Emerson Browne's "Uncle Sham" to again resume his original name conferred through baptism by fire and adversity.

C. B. B.

THE ILLINOIS STATE BOARD OF ADMINISTRATION AND THE STATE INSTITUTIONS.—We learn from a daily paper that the Illinois State Board of Administration has ordered the superintendents of all state institutions to remove all signs regulating the conduct of visitors, such as "Keep out" (presumably intended to warn the over curious and intrusive that there were certain parts of the grounds and buildings closed to visitors), "No admission," "Keep off the grass," and signs designating certain days as visiting days.

"The institutions," President Kern of the board is quoted as saying, "belong to the people, and if they want to walk on the grass there is no good reason why they should not."

We have been laboring under the impression that while public institutions are built by money obtained from tax-payers, and in that sense belonged to the people, they were for the benefit of those whose condition made it necessary for them to reside therein. We have always felt, moreover, that superintendents of such places were better qualified than administrative boards to regulate visiting, visiting days, and those portions of the grounds and buildings to which "the people" could have access with the least inconvenience to good administration and the least annoyance to patients. One can readily imagine that the engineer might, without in any serious degree trespassing upon the rights of the people, post a sign warning them to keep out of the engine room and away from possible harm from machinery. So, also, the store-keeper would find the intrusion of visitors at random into store-rooms or along roads used exclusively as "goods entrances" a source of annoyance if not worse, and would be justified in posting a sign "No admittance." As for the grass—well let the people wander at will over handsome lawns, a source of much pleasure when well kept, and, in most institutions that we know of, used freely by those residing therein, and then perhaps the administrative board will realize that a thing of beauty is not a joy forever when trampled under careless feet, but may be kept such if wisely conserved by judicious directions.

This is the same board, we believe, against whose action in assenting to the removal of the superintendents of practically all the state institutions we had occasion to animadvert some months ago. At that time apparently the institutions, in the view of the

board of administration, belonged to the political party in power, in as far as they could be used to afford places for political appointees, now they belong to "the people."

A NEW COMMISSION IN MASSACHUSETTS.—As noted elsewhere (in the Half-Yearly Summary), the Massachusetts State Board of Insanity has become the Massachusetts State Commission on Mental Diseases. An entirely new board has been appointed, of which Dr. George M. Kline, late superintendent of the Danvers State Hospital, is medical director.

The board, which has been legislated out of office, has worked out many changes in the state hospital administration of Massachusetts, and has introduced many methods which will undoubtedly be followed by its successor. Governor McCall has made public a letter in which he thanks Dr. Briggs, the secretary of the old board, for his work in the past and for his assistance in working out the details of the new commission.

## Book Reviews.

*The Institutional Care of the Insane in the United States and Canada.*

By HENRY M. HURD, WILLIAM F. DREWRY, RICHARD DEWEY, CHARLES W. PILGRIM and T. J. W. BURGESS. Edited by HENRY M. HURD, M. D., LL. D. Volumes I and II. (Baltimore, Md.: The Johns Hopkins Press, 1916.)

To the readers of this JOURNAL, at least to all who are members of the Medico-Psychological Association, it will no doubt appear to be a work of supererogation on the part of the writer of this notice to call attention to the contents of these two notable volumes. We say this because all the members of the Association by this time have had an opportunity to purchase the volumes, and we trust that a very large majority of the membership has done so.

The work has outgrown the original plans of the committee appointed eight years ago at the meeting in Cincinnati, and reflects great credit upon the committee which had it in charge, and particularly upon the chairman of the committee and editor of the volumes, Dr. Henry M. Hurd.

Much difficulty has been experienced in collecting data for the "history," for such it must be called, and in many instances as regards men engaged in the care of the insane and the conduct of institutions, and as to the institutions themselves, very little data was found of the kind required by the nature of the work. This absence of essential details was particularly noticeable when an attempt was made to ascertain the condition of the insane in various communities before the establishment of institutions for their care. It would be a very interesting study in the progress of civilization were we able to gather from these volumes a clear view of the state of the insane in colonial days and in the early days of the various commonwealths after the formation of the Union. How were the insane regarded; what was the attitude of the people toward them; how were they treated by the physicians in the latter part of the eighteenth and the early days of the nineteenth centuries; what steps, if any, were taken for their segregation, and where? All of these queries, and others which will readily suggest themselves to our readers, if answered in these volumes would add greatly to their interest—but, alas, the editors found no material in existence upon which to base authoritative historical record. They are forced therefore to the conclusion "that the insane, as a class, at that period (before the establishment of state institutions) were universally neglected and little or no effort was made to provide anything beyond shelter for them, and sometimes even shelter was lacking." When one studies the history of the care of the insane the world over, no other conclusion is possible.

Volume I comprises over 500 pages. Following the introduction is a very interesting review of the history of the Association of Medical Superintendents of American Institutions for the Insane, 1844-1893, and of the American Medico-Psychological Association, its successor, from 1893, when the change of name was made, down to 1913. In the first section are introduced pictures in half-tone of the founders of the Association in 1844, "the original thirteen" as they are often called.

It must have involved much reading and a careful discrimination to have condensed into a little over 60 pages a recital of the more important, and in many instances epoch-making, discussions and papers which have been presented in the 60 annual sessions of the association. Four pages of this chapter are devoted to a history of *THE AMERICAN JOURNAL OF INSANITY*.

The second chapter recites what is known of the early and colonial care of the insane, and then some five pages are devoted to the "Era of Awakening," opening with the establishment of the Pennsylvania Hospital in Philadelphia in 1751 with its department for the insane; the establishment of the first state institution at Williamsburg, Va., in 1773, and the Friends' Asylum in Frankford, then a suburb of Philadelphia. Bloomingdale, which was the outgrowth of the department for the insane of the New York hospital, did not become established in a separate building until 1821, and still maintains its connection with the general hospital. McLean Asylum, now the McLean Hospital, a part of the Massachusetts General Hospital, was founded in 1818, and this, with the Hartford Retreat, the institution at Brattleboro, Vt., the State Hospital at Worcester, Mass., and the Eastern State Hospital at Lexington, Ky., are examples of the attempts made either by private charity or various commonwealths to provide some sort of care for the insane.

These early hospitals were taken in many instances as the models, both for buildings and management, of institutions which were subsequently erected in various parts of the country. Of the hospitals erected after 1840, the history very correctly in our view states that the institution at Utica, opened in 1843, had as much to do with the movement to provide better care for the insane and to introduce a higher standard of medical administration than "any other single agency." A larger number of men have been called from the assistant medical officers of this one hospital to the charge of other institutions than from any other in the country.

The "Utica school" has been the subject of much criticism from certain directions in the past, but the fact remains, and we are glad to see it recognized in the history, that it has made its mark on the psychiatry of the country and particularly upon hospital administration.

The third chapter gives a very succinct and interesting account of Miss Dix (Dorothea Lynde Dix) and her work. To those who have not made themselves familiar with the philanthropic career of this remarkable woman this chapter will be of most absorbing interest.

Time and space do not permit, interesting as it would be, a very detailed account of the contents of this most excellent volume. Such subjects as County Care; The Chronic and Incurable Insane; The Colony System;

State Care, Methods of Investigation of Public Institutions; Hospital Architecture; Reforms in Caring for the Insane; Employment of the Insane; Origin of the Psychopathic Hospital in the United States; Training Schools for Nurses; Private Care of the Insane; Growth of the Law of Insanity; Care of the Criminal Insane; Immigration and the Care of the Insane, selected almost at random from topics which suggest a wealth of matter, all offer most tempting opportunity for reference and comment.

The volume is well illustrated and it is a matter of congratulation that there have been preserved in an accessible form so many pictures of the fathers of psychiatry in America and of the early institutions for the care of the insane. It is not too late, perhaps, to include a picture of Benjamin Rush, the first American writer on insanity. Possibly when the account of the Pennsylvania Hospital is published his portrait will appear.

The second volume, embracing nearly 900 pages, gives an account of the care of the insane, in most instances an epitome of the laws regulating commitment of patients and the government of institutions in Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi and Missouri, and of the state corporate and private institutions in these various states.

The committee and the editor-in-chief have been dependent largely upon the coöperation of the medical officers of the various institutions for data. This fact and the most unfortunate and reprehensible practice in some states of changing the medical directors of state hospitals with changes of political administration has resulted in some unevenness in the accounts of the various institutions. Some histories are complete in all essential details while others present a meagre and unsatisfactory account of the origin and progress of the institution. In some a complete list of all the medical officers who have served in the institution is given, while in others the names of some of the superintendents are not known.

Many of the histories have been obtained only after prolonged and patient effort, and in some instances the editor has had to fulfill a duty which the medical chief of the hospital should have undertaken with pleasure.

Each state has its own peculiar methods of administration and each hospital its particular routine. It would be therefore impossible to attempt even an analysis of this bulky volume.

Too much praise cannot be given to the manner in which the task imposed upon this editorial committee has been carried out, and as one of the members of the committee, Dr. Burgess, said at the meeting in New Orleans in April last: While all the committee have tried to help, the burden of the work has been on Dr. Hurd's shoulders. We urge every reader who has not subscribed for the set to send his subscription to the Johns Hopkins Press, Johns Hopkins University, Baltimore, at once.

*A Manual of Vital Function Testing Methods and Their Interpretation.*

By WILFRED M. BARTON, M.D., Associate Professor of Medicine, Georgetown University, Medical Department, etc. (Boston: Richard G. Badger, Toronto, The Copp-Clark Company, 1916.)

Dr. Barton in this manual has attempted to bring together much valuable material which has been widely scattered in medical journals and in the medical literature of many lands in a form to be easily consulted by physicians. The tests and testing methods which are here brought together relate to the functions of the liver, kidneys, heart, pancreas and the ductless glands. Except as the disturbance of function of these various organs relate to disturbances in the nervous system, the reader will, as the author clearly states in the preface, fail to find any functional tests relating to nervous disorders.

Some 55 pages are devoted to tests of liver function. These are divided into five groups: First, functional tests to discover disturbances of the glycogenic function; second, tests to determine disturbance of the ureagenetic functions; third, tests to determine disturbance of the autotoxic function; fourth, tests to determine disturbance of the sanguinopoietic function; fifth, tests to determine disturbance of the exocrinous or biliary function. Tests of kidney function occupy over 70 pages. After some pages devoted to general consideration of the problems involved follow sections upon urinalysis as a criterion of renal function; the study of the physical and biological characteristics of the urine as criteria of kidney function; studies of the blood as criteria of renal function and studies of the elimination of foreign substances by the kidney as criteria of renal function, a general summary of renal function tests and the selection and practicability of these tests. The phenolsulphonaphthalein test of Rowntree and Geraghty is given the preference over all other tests of renal function, particularly when for any reason but one test can be employed.

The next section of the book is upon tests of pancreatic function. Studies of disturbed function of this organ are as yet too few, and many of the observations made so far lacking in clinical and post-mortem confirmation that the author is compelled to admit that it is still an extremely difficult matter to determine whether the pancreatic functions are involved, and that there is as yet no one functional test which constitutes an absolute pathognomonic sign of disease of this organ. This of course would, in view of its manifold functions upon some of which more evidence is necessary, be expected. The tests thus far devised are, however, of considerable value, and should be made use of in the clinical laboratory.

Following this section directions for tests of heart function and of the functions of the ductless glands conclude the work.

This little manual should be in every hospital and laboratory library and should be freely consulted. It will be found to be a suggestive and valuable guide to greater exactness in diagnosis, a valuable aid to treatment, and of much use in the matter of prognosis. It does not profess to present anything new, but the author has rendered a distinct service to the pro-

fession by the compilation. The numerous references will enable students to consult the original sources of information.

*An Introduction to Neurology.* By C. JUDSON HERRICK, Professor of Neurology in the University of Chicago. (Philadelphia and London: W. B. Saunders Company.)

This work, the author informs us, is designed in a literal sense as an introduction to the study of neurology. It has been prepared "in the hope that it will help the student to learn to organize his knowledge in definite functional patterns earlier in his work than is often the case and to appreciate the significance of the nervous system as a working mechanism from the beginning of his study." It is a common experience of teachers of neurology to find that students come to them in their third and fourth years of college work with a very imperfect knowledge of the structure and function of the nervous system, and much time and patience are required on their part to teach matters which should have been taught earlier in the students' career.

The author points out that the structure and function of the nervous system are of interest to students in what appear to be widely different fields—medicine psychology, sociology education, general zoölogy, comparative anatomy and physiology among others. Different requirements pertain to different fields, but the fundamental principles of structure and function remain the same. An examination and analysis of the 21 chapters which constitute the work would be a task beyond the purposes of this notice. The reader must get the book and undertake the task for himself. In doing so we predict that he will find the study well worth his while, and that to the student as an introduction to more extended work, or to the general practitioner or the specialist in refreshing his knowledge and in bringing it down to the most recent accepted views, the book will be of equal value.

## Half-Yearly Summary.

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ALABAMA.—The annual meeting of the Alabama Society for Mental Hygiene was held at Birmingham, April 8, 1916. Dr. Thomas W. Salmon, Medical Director of the National Committee for Mental Hygiene, addressed the society on Feeble-Mindedness, urging that separate care for this class of defectives be established apart from the insane, and suggesting that a preliminary survey be made of conditions in the state. At this meeting Professor Charles A. Brown, of Birmingham, was elected President, and Dr. William D. Partlow, of Tuscaloosa, was re-elected Secretary-Treasurer.

CALIFORNIA.—The Los Angeles Society for Neurology and Psychiatry was organized during April, 1916, with the following officers: President, Dr. Henry G. Brainerd; Vice-President, Dr. Charles Lewis Allen; and Secretary, Dr. Edward H. Williams.

CONNECTICUT.—*Connecticut Hospital for the Insane, Middletown.*—Since the last half-yearly summary two houses and lots adjoining the hospital property, and constituting what is known as the Burr property, have been purchased, and the houses altered for the occupancy of patients. They are now used as cottages for convalescent women, affording homelike surroundings for such class of patients.

Analysis of the drinking water showed one of the hospital reservoirs contaminated with *bacilli coli communis*. It was found that a neighboring barnyard and piggery drained into the reservoir, and in order to abate the nuisance the property upon which they stood was purchased, adding 63 acres to the hospital property, part of which is tillable land. This property, known as the Brooks Farm, has an excellent farm house, which has been altered for patients' occupancy, and it is now used as a farm colony by 15 male patients, making the third farm colony of the hospital.

A small building erected as a crematory has been equipped for use as an isolation hospital, while the old isolation hospital, a building of 50 beds' capacity, is now used as a male infirmary.

The additional beds provided by the above changes and purchases render it possible to care for a larger number of patients, the present census being 2618, a number more than 50 greater than ever before.

Additional ground lighting has been provided by the erection of lamp posts between the main and middle buildings, and between the north building and nurses' home; fences have been removed from exercise yards; alterations in the reception wards for the respective sexes provide a number of small dormitories, with office and examination rooms distinct from

the wards proper, where patients may be kept under preliminary observation and treatment before entering the general wards; two continuous baths have been installed on the men's reception ward, while two are also about to be installed on the women's reception ward.

A moving picture machine has been installed in the amusement hall, and weekly entertainments are given.

A singing school has been established, which is also held weekly.

An occupation instructress has been appointed, and there are now over 125 patients in the various occupation classes, necessitating the employment of two assistant occupation teachers. An exhibition of the products of industrial work was held in the amusement hall, May 24 and 25, which was attended by a large number of visitors.

The Connecticut State Medical Society held its semi-annual meeting at the hospital, one session being devoted to a symposium on mental diseases given by the members of the hospital staff.

The training school has been thrown open to all ward employees who pass the entrance examination, and in consequence the junior class is the largest in the history of the hospital. The old amusement hall on the fourth floor of the main center, formerly used as a storeroom, has been refitted as a classroom for the school. Commencement exercises were held June 22, when five nurses received their diplomas. His Excellency, the Hon. Marcus H. Holcomb, Governor of the State of Connecticut, was present and delivered an address to the graduating class.

A standard uniform has been adopted for all ward employees, both men and women. Individual rank is indicated by a black band on the cap in the case of women, and chevrons on the sleeve in the case of men. Time service is indicated by service stripes worn upon the sleeve, one being granted for each five years' service.

As the hospital lacks a tubercular pavilion, all tubercular patients have been placed in two detached wards, one for each sex, adjoining the North Hospital.

A fire company has been organized, the members of which receive additional compensation for fire duty, one-half of the company being constantly on duty to answer alarms.

On April 1 a new system of business methods was inaugurated, the essential features of which are the provisions for checking issues of supplies against receipt of supplies, a perpetual inventory of supplies on hand, the issuance of smaller units of supplies, checking of worn out goods condemned, and a comparison of the amount of supplies used by different parts of the hospital. Aside from the above objects, the new system will simplify the work, avoid duplications, and should result in increased economy.

A weekly conference has been inaugurated, which is attended by the heads of the various departments, the business manager, the assistant superintendent, and a superintendent, at which the work in the different departments is coordinated and discussed. A similar weekly conference is held by the supervisors and the superintendent of nurses.

A clothes' marking machine has been purchased, with considerable saving in the marking of clothing, both as regards labor and space required for the work.

A system of waste accounting has been inaugurated, whereby all table waste is recorded, and considerable saving has been effected, especially in the consumption of bread.

—*The Hartford Retreat, Hartford.*—The brick building which was formerly used as a stable is now being converted into a home for married nurses and attendants. It will accommodate about 36 people, will be provided with a bowling alley, billiard room, and smoking room.

DISTRICT OF COLUMBIA.—On June 8, 1916, the House of Representatives passed a bill providing divisions of mental hygiene and rural sanitation in the public health service. The division of mental hygiene is to study and investigate any mental disorders and their causes, care and prevention.

—*Washington Asylum Hospital, Washington.*—The accommodations at this hospital were strongly condemned by the Monday Evening Club, a public welfare organization, which urged the enactment of legislation for much needed improvements. But little has been done to improve the hospital buildings since the hospital was an adjunct of the District Workhouse and District Poorhouse so that they are necessarily somewhat antiquated.

ILLINOIS.—The fifth annual meeting of Alienists and Neurologists of the United States was held at the La Salle Hotel in Chicago, June 19 to 23, under the auspices of the Chicago Medical Society.

It is reported that a committee of the Chicago Bar Association has recommended to the Board of Managers of the association that the psychopathic laboratory connected with the Municipal Court of Chicago be discontinued.

On invitation of Judge Thomas F. Scully a conference was held in the County Court Building, July 24, 1916, which was attended by representatives from most of the state hospitals, psychopathic hospitals and municipal courts. Three days later another conference was held by Judge Scully, the County Commissioner, and the Board of Administration at which it was recommended that a farm colony for morons and other feeble-minded be established, that all drug addicts be arrested and placed in hospitals for their cure, and that the psychopathic hospital be placed at the disposal of the state for experimental work under the charge of Dr. H. Douglas Singer and his assistants.

The Illinois Society for Mental Hygiene has inaugurated a survey in charge of a committee of which Dr. Sydney Kuh and Dr. Sidney Wilgus are members to make a survey of the state in order to determine the number of subnormal individuals.

Arrangements have been made by the Board of Administration with the institution within an institution, is known as the Illinois State Leprosarium, for research work on dementia præcox.

—*Anna State Hospital, Anna.*—The State Hospitals' Medical Association met at this hospital May 25 and 26, 1916.

—*Elgin State Hospital, Elgin.*—A golf course has recently been laid out on the grounds of this hospital and is proving a valuable means of recreation.

—*Watertown State Hospital, East Moline.*—A farm cottage to care for about 50 male patients is practically completed and will be ready for occupancy during the next few weeks.

A large industrial class of women has been organized and meets daily in the assembly hall.

A case of leprosy has been located in a detached building upon the institution grounds. The man, a Mexican, is cared for by his wife. This little institution within an institution, is known as the Illinois State Leprosarium. The patient has improved markedly under treatment.

Several new buildings have been occupied since last fall; namely, a one-story cottage for tubercular patients, divided into two sections of 25 beds each, male and female; an assembly hall, a nurses' home and a female infirmary.

INDIANA.—*Southeastern Hospital for the Insane, Madison.*—Thirty-four acres of land were recently purchased, making the total amount of land owned by the hospital 374 acres.

IOWA.—*State Hospital and Colony for Epileptics, "The Meadows," Woodward.*—It is hoped that this institution will be ready to receive patients early next year. There is under construction 10 pavilions, a power house, laundry, service building and superintendent's residence. When these buildings are completed there will be accommodation for 150 people, including the necessary officers and employees.

As originally planned the institution contemplates the development of two divisions; a hospital division and a custodial division. The buildings now under construction are intended for the care of hospital cases only. They are of colonial design and fireproof construction. A combination of the cottage and village plan is being followed in the location of the various buildings. Heat, light and water will be provided by the institution plants.

A careful estimate gives the total number of epileptics in the state at 4500 so that it is believed that the institution should have a capacity of from 1200 to 1500 patients. The service unit, now being built, has been designed with a view of meeting all future needs of both divisions.

For the present, all farm work is being carried on with labor furnished by a camp maintained on the premises by the Iowa State Penitentiary. The institution owns 1144.4 acres, all of which, with the exception of six acres, is located in Boone County.

At the annual state fair, which closed the last week of August, the state institutions made a collective exhibit, which was housed in tents as the

institutions have no permanent building on the grounds. The directors of the fair will probably ask the next general assembly to appropriate funds for the erection of a building for this purpose. The exhibits included a variety of industrial and manual training work which is carried on in the various institutions, also live stock, farm and garden products. Great interest was shown by visitors so that the exhibit will probably be repeated in future years. A pamphlet describing "The Meadows" was distributed.

KANSAS.—*Topeka State Hospital*.—The medical work has been uneventful except that the medical staff has been somewhat interested in the results of pituitrin in the treatment of dementia præcox. The preparation of the posterior lobe has been administered in several cases with encouraging results. The treatment has not been used sufficiently to warrant a report at this time, but it will be continued and a detailed report made later.

The industrial activity of the hospital during the year has been occupied in the construction of a home for domestic and mechanical employees, preparatory to the rebuilding of the general kitchen and domestic building, and, with the completion of the employees' home, the rehabilitation of the domestic building will commence immediately.

—*State Hospital for Epileptics, Parsons*.—The half-year has been a rather quiet one. During the summer the patients' ball team has played many games with visiting teams. It seems that the patients are better contented than formerly, ball games, picture shows, school, chapel, etc., tending to make the restricted life of epileptics less monotonous.

Owing to the increased price of natural gas the hospital has been obliged to change to coal for heating purposes. Automatic stokers have been installed in the powerhouse and are giving good service.

The contract for a new fireproof hospital building has been let, and construction is to begin at once. This building is to care for the acutely sick of both sexes and those requiring special attention, surgical treatment, etc. It will contain small wards, private rooms, kitchen and dining rooms, diet kitchen, operating and X-ray rooms, laboratories, hydrotherapeutic rooms, with quarters for nurses and doctor. It is a much needed addition to the hospital. The building completed will cost \$50,000.

MARYLAND.—Under the somewhat formidable title of Committee for the Conservation of the Mental Health of the Community, the Maryland Psychiatric Society has launched a movement which is expected will interest all of the charitable and social workers in the state in the question of the defective delinquent. The movement was inaugurated at a meeting held at the Springfield State Hospital in January, at which papers on The Defective Delinquent were read by Drs. Henry M. Hurd, Henry J. Berkley and W. B. Cornell. At a meeting held at the Sheppard and Enoch Pratt Hospital, May 23, 1916, the committee was organized and consists of a representative from each of the charitable and social organizations,

the juvenile courts, the state hospitals and corrective institutions, the State Medical Society, and State Board of Health, so consisting of about 50 members. An executive committee of five will attend to details, subject to approval of the whole committee. The object is to first make a survey of the number of defectives, also to estimate in some way the cost of such individuals to their communities, and, later, to formulate some plans for the care of this class of dependents. It will be necessary to do a certain amount of educational work in order that the public may be informed of the seriousness of the problem, and to do this it is expected to make addresses before the various county medical societies and meetings of social workers, which work will be done in conjunction with the Mental Hygiene Society. At the meeting held at the Sheppard and Enoch Pratt Hospital, Mr. George L. Jones, of the Henry Watson Children's Aid Society, read a very interesting paper in which he showed that a certain family of 12 members had in 26 years cost the community over \$16,000, not including the cost of police and judicial proceedings, services of school doctor, nurse and truant officer, or the cost of services and relief given by six private charitable agencies during the whole period. This paper was published in the *Maryland Psychiatric Quarterly*.

The last legislature enacted several laws relative to the insane, the most important being a reimbursing act by which the authorities are empowered to collect from the relatives responsible for patients a part or all of the cost of their care. It is now possible for patients to enter the state hospitals voluntarily either at his own expense or at that of his or her relatives or of the county or city where he resides. Superintendents are now authorized to parole patients for a period of six months instead of for 30 days as heretofore. Judges of criminal courts are given authority to order an examination by the Lunacy Commission of persons under indictment.

—*Henry Phipps Psychiatric Clinic, Baltimore*.—It is expected that this institution will be the beneficiary and administrator of a fund of \$150,000 which has been left to the Johns Hopkins Hospital by Miss Jessie Gillender, of Los Angeles, California, for the scientific research of the cause, prevention and cure of epilepsy.

—*Sheppard and Enoch Pratt Hospital, Towson*.—The work of remaking the bathroom units of which mention was made in the April summary, has been going on during the summer and is now nearing completion. The amount which could be done at a certain time was limited by the fact that it was necessary to complete one unit before the next could be torn out, as no effort was made to decrease the population during this improvement.

The graduation exercises of the training school were held in the assembly hall on May 24, 1916, at which four young women were given diplomas.

The roads in the vicinity of the men's and women's buildings have been resurfaced in such a manner that it is expected the wear will not be so great as heretofore.

During the first week in September a very interesting quilt exhibit was held at the hospital with the idea of interesting the women patients in patchwork and quilting as an occupation. Through the kindness of friends there were assembled over 50 quilts of considerable beauty and also venerability, as one was over 100 years old, one 95, and quite a number over 30. A number of very beautiful modern quilts, designed by Mrs. Marie D. Webster, author of "Quilts," were loaned by her and were greatly admired. A number of visitors saw the exhibit and from them were received offers for the loan of other quilts which will probably be accepted for a later exhibit. As a sequel, two classes in patchwork have been formed.

The Baltimore County Medical Society met at the hospital September 20, and were addressed by Drs. Brush and Dunton on Syphilis of the Nervous System, and by Dr. N. H. Brush, of the Henry Phipps Psychiatric Clinic, on The Colloidal Gold Reaction, with a demonstration.

A very interesting tennis tournament was recently held in which a number of former champions from several states participated so that the playing was exceptionally good.

A very successful baseball season has just closed, the home team winning a majority of the games played.

The hospital will soon close the twenty-fifth year since its opening for patients. It is expected that somewhat later some note will be taken of this occurrence.

MASSACHUSETTS.—On August 14, 1916, The State Board of Insanity, consisting of Dr. L. Vernon Briggs, Dr. Michael J. O'Meara and Mr. Charles E. Ward, was superseded by the Massachusetts Commission on Mental Diseases, consisting of Dr. George M. Kline, Director; Dr. Henry M. Pollock, Dr. Charles G. Dewey, Elmer L. Stevens and John B. Tivnan, Associate Members. The members were appointed by the governor with the advice and consent of the council, the director for five years and the associate members for terms of one, two, three and four years, respectively. Hereafter, every year the governor shall appoint an associate member for four years, and every fifth year, a director. The director, and at least two of the associate members, are to be physicians and experts in the care of the insane. The director is to receive a salary not exceeding \$7500, and the associate members are to serve without compensation, but they and the director are to be reimbursed for expenses incurred in the performance of their duties. The director is to be the administrative and executive head of the commission.

Besides the act creating the above commission, acts were passed by the legislature relative to the qualifications of physicians certifying to insanity, relative to commitment and discharge of feeble-minded persons, providing for the purchase of land at the Medfield State Hospital, authorizing the temporary release of patients committed to insane hospitals for life, relative to the transfer of patients from the Grafton State Hospital, making additional appropriations to certain institutions, relative to the

disposal of sewage from the Worcester State Hospital, and relative to the resignation of trustees.

The fourth annual conference on the medical and social work of the psychopathic department of the Boston State Hospital was held June 10, 1916. Addresses were made by Dr. Southard, Dr. Adler, Dr. Cohoon, Dr. Solomon, Dr. Yerkes and Dr. Thomas W. Salmon.

The Boston City Council has established a medical department and psychologic laboratory for the determination of the mental condition of offenders. Dr. Victor V. Anderson will be in charge.

—*Boston State Hospital, Dorchester Centre.*—There is under construction at this hospital a building for 150 women patients of the chronic disturbed class, for which the Legislature appropriated \$140,000 to provide for construction, equipment and furnishings. The building, which is planned and located in accordance with the general scheme for development adopted by the trustees several years ago, is of fireproof construction, three stories in height, with a high basement in which are located a dining room and a commodious serving room and pantry. The food service will be by wagon from the general kitchen. There are six wards for 25 patients each, of whom seven will occupy single rooms, the remainder being accommodated in small dormitories. Each ward has a screened porch opening directly from the day room, providing the maximum facilities for open air treatment of this class of patients.

The population of this hospital is now approximately 1550, its capacity having been doubled since 1910, when its expansion to metropolitan proportions was begun.

—*Danvers State Hospital, Hathorne.*—A conference was held March 29, 1916, with a number of prominent local business men to discuss plans relative to the employment of mentally handicapped out-patients.

Nurses and attendants employed at this hospital are required to sign an agreement that besides obeying rules of the institution and directions of the chief officer, they will at once report any cruel or harsh treatment that may come under their observation.

Appropriations have been made for a new attendant's home with a capacity of 56 rooms, and for a new storeroom and service building, of first-class construction, to be located adjacent to the railroad which serves the hospital, so permitting a more efficient method of distribution.

A landscape chart has been drawn to cover and establish plantings of trees and shrubbery about the hospital grounds.

The patients' library has been centrally located near the public entrance which makes it easier for their personal service. New books have added many readers to the list of borrowers.

—*Grafton State Hospital, Worcester.*—The new female nurses' home has been occupied. This will permit the opening of a new ward for women in the Willows Service Building, heretofore occupied by employees.

The administration offices, with the exception of that of the steward, have been removed from Summer Street, Worcester, to Grafton. The steward's office will remain at Summer Street until a storeroom can be established at Grafton.

It is expected that with the completion of several new buildings that additional accommodation will be provided for about 580 patients.

—*Medfield State Hospital, Harding.*—For over a year this hospital has had a very successful employees' club which furnishes necessary entertainment for a large number of employees. The officers are chosen by vote of the employees and a small sum is charged monthly for dues. The clubroom is supplied with tables, chairs, piano, victrola, books, games and daily papers. At regular intervals card parties, dances and other entertainments are given.

On July 18, 1916, the Alfalfa Club and the Holstein Cattle Breeders' Association met at this hospital and inspected the growing alfalfa and the herd of cows. An address was made on alfalfa and its use by Professor Graber, of Wisconsin, and moving pictures of growing alfalfa were shown.

—*Northampton State Hospital, Northampton.*—On May 11, 1916, the Hampshire District Medical Society held their annual meeting at this hospital. The following papers were read by members of the staff: The Relations of Alcohol to Insanity, by Dr. Edward C. Greene; The Relations of Syphilis to Insanity, by Dr. Arthur Nelson Ball; Pellagra and Insanity, by Dr. Angela Bober; Demonstration of the Binet-Simon and Yerkes Point Scale Intelligence Tests, by Dr. Angela Bober.

About 90 members of the sociology class of Smith College visited the hospital on May 24, 1916. After an inspection of the buildings, the superintendent gave a lecture on Insanity, Its Causes, Prophylaxis and Treatment.

MICHIGAN.—The Joint Board of Trustees of the state hospitals held a meeting at Kalamazoo, July 18, 1916, at which Dr. Adolf Meyer spoke on the Extra-Institutional Responsibilities of State Hospitals for Mental Diseases, and Mr. George A. Hastings on Meeting the Mentally Sick Half-Way.

—*Kalamazoo State Hospital, Kalamazoo.*—The members of the staff of this hospital have been conducting a series of out-patient clinics in towns other than Kalamazoo. The object is to give opportunity for consultation to those who are unable to pay a visiting alienist.

MISSISSIPPI.—*East Mississippi State Hospital, Meridian.*—The institution is now improving the power plant by building a larger boiler room and installing a battery of Babcock and Wilcox boilers.

MISSOURI.—The Missouri Mental Hygiene for Mental Hygiene was organized in St. Louis, May 24, 1916, a committee being appointed to com-

plete the organization with Dr. Malcolm A. B. Bliss, as Chairman, and Dr. Francis M. Barnes, Jr., as Secretary-Treasurer.

NEBRASKA.—*Norfolk Hospital for the Insane, Norfolk.*—It is expected to construct a new three-story building, with a large enclosed porch on each floor, to accommodate 100 patients.

—*Hospital For Insane, Lincoln.*—During the past year the kitchen has been enlarged and tile flooring has been installed.

The industrial department has been further developed and the introduction of the institution library with a common reading room in charge of a librarian is one of the advanced steps of the institution.

The institution now affords two receiving services, one for male and one for female patients, with duplicate hydriatic equipments and general ward arrangement. A fire-proof addition to the male division providing day halls, sleeping porches and dormitory sleeping rooms has been erected, with a congregate dining room for men, which will house approximately 80 patients. The cost of constructing this building was especially low in that the contract for the building and equipment amounts to \$30,000. Tunnel connections are to be constructed, connecting the various departments of the institution. A tremendous amount of reconstruction has been under way in the tearing out of old woodwork in the old building with the installation of cement construction. Sleeping porches and connecting corridors which make all of the wards and apartments of the institution intercommunicating have been completed.

The institution conducts a training school for nurses. The three-year law provided in Nebraska requires that six months of this training shall be given in a general hospital. An affiliation has been established with the Cook County Hospital in Chicago.

The greatest problem confronting Nebraska institutions is the employee problem. Some legislative body who have a keen insight into the needs of institutions will some day solve the problem by providing suitable quarters for employees. Very little attention has been given to this feature of the work by Nebraska legislative bodies. It is intended to recommend to the Board of Control that suitable provision for housing employees shall be considered by the next session of the legislature.

NEW JERSEY.—*New Jersey State Hospital, Morris Plains.*—The commission appointed by Governor Fielder to investigate the crowded condition of this hospital has recommended that a new institution be established rather than enlarging the Trenton State Hospital. This hospital has 900 patients more than its official capacity. The legislature appropriated \$150,000 for the purchase of a site before October 1, 1916.

The graduation exercises of the training school were held in the assembly hall on June 14, 1916, there being four women and one man in the graduating class.

For years there have been libraries on the different wards of the institution. This spring a room off the main corridor was set aside for the

use of a circulating library. One hundred and eighty-four books were purchased as a nucleus for this library and kind friends of the institution have donated a number of books and magazines. One morning a week is set aside for the men and women patients to exchange books. The patients seem to be well pleased with the arrangement and are deriving much pleasure and benefit from the change to the circulating library.

The printing department of the Industrial Building is now printing *The Psychogram*, the monthly magazine published by the hospital. The first number was issued in July. The magazine consists of 20 pages with illustrated cover which shows some of the buildings and other portions of the institution, being a different view each month. The magazine generally contains an editorial written by the medical director or one of the medical staff, an article on some subject relative to mental diseases, original poems and essays by patients, topics of interest about the hospital, such as reports of baseball games, moving picture shows, staff notes, board of managers' meetings, and a biography of one of the pioneers of psychiatry, this biography being furnished by Dr. Thomas W. Salmon, Medical Director of the National Committee of Mental Hygiene. Subscription to *The Psychogram* is 50 cents a year and at present its circulation is about 500.

An incinerator, costing \$3800, is in course of erection. This will obviate the burying of refuse and other matter in trenches which has been the custom for the past 40 years. The fuel for the incinerator is to be the odds and ends of wood about the institution and when that supply is not available, kerosene will be used.

Additional sleeping quarters for employes in the Business Department are being provided by the building of a wing to the fire house. The style of the construction is stucco. Owing to the overcrowded condition of the institution these employes at present sleep in tents.

This spring and summer the open air recreation pavilion has been in constant use. Dances are held Wednesday and Friday afternoons, practically in the open air and have been greatly enjoyed by the patients. On other days the patients and nurses use the pavilion as a social hall while out for recreation.

A new mortuary building and pathological laboratory has been erected in the basement of this building. There will be a large refrigerator and well equipped mortuary room. On the first floor will be erected the office museum, bacteriological, serological, histological and urinalysis rooms; on the second floor the photograph studio and the micro-photographic rooms will be located.

The extension to the Industrial Building has been completed. In the basement of this extension there will be an apparatus for making rubber stamps of all kinds, and a large oven for doing decorative china work. On the first floor there will be additional equipment for the further development of bookbinding, which up to the present time has been progressing very successfully. In this room the men patients will be engaged in the art of bookbinding. On the second floor, similar apparatus will be installed

for a bindery where the work will be done exclusively by the women patients. When the diversional occupations for patients were introduced in this Industrial Building, special attention was given to the arts of printing, bookbinding and ruling. The importance of installing modern machinery and apparatus, even though expensive, was recognized from the start. Even though these industries require exceptional skill and knowledge, the patients who have been engaged in these various occupations have been able to do the work in a very fair manner and produce commodities that have been of economic value to the institution. The north side of the basement of the Dormitory Building has been renovated and equipped with apparatus for doing carpentry, basketry and concrete cement work, including block making; also various kinds of textile work, such as rug, carpet and towel weaving.

NEW YORK.—*Bellevue Hospital, New York.*—A psychologic laboratory has been established under the direction of Dr. Menas S. Gregory, Physician-in-Charge of the Psychopathic and Alcoholic Pavilions. Dr. Leta S. Hollingsworth, formerly Psychologist to the Department of Public Charities, in New York, will have charge of the laboratory, and as about 15,000 patients pass through the above services, there will be exceptional opportunities for research work.

—*Binghamton State Hospital, Binghamton.*—The new building to which reference has been made in a previous summary, although practically finished, is not yet occupied, owing to difficulty in securing the necessary equipment. This equipment, however, it is expected will be installed in the near future, and arrangements will be made for the transfer of women patients to fill the building from the crowded metropolitan district.

Plans and specifications are being prepared by the state architect for an addition to the laundry and its equipment, an appropriation of \$32,000 having been made by the legislature for that purpose. An additional 500 horse-power water-tube boiler is now being installed at the power plant, and the necessary building to house the same is now being constructed under contract. This addition to the power equipment will make the heating and lighting much more efficient during the coming winter.

On May 19, 1916, a transfer of 25 men patients was received from the Kings Park State Hospital to relieve the crowding in that institution.

A quarterly conference of the State Hospital Commission, with managers and superintendents, was held at this hospital May 2, 1916. The papers on subjects of special interest to the conference were furnished by members of the hospital staff and have since been published in the *State Hospital Quarterly*. These papers covered a report of the meeting of the American Medico-Psychological Association at New Orleans; "The Relationship of the State Hospital to the Community"; "The Function of the Pathological Laboratory to the State Hospital Service," and "The Laboratory in its Relation to the Purchase of Supplies."

The graduation exercises of the school of nursing were held in the assembly hall on the evening of June 28, 1916, the graduating class numbering six.

—*Bloomingdale Hospital, White Plains.*—In the treatment of the patients at Bloomingdale Hospital, the proximity of Long Island Sound has always been utilized to give them access to sea bathing, boating, fishing and the invigorating effects of sea air. Even when horse-drawn vehicles were the only means of transportation available, parties of patients were driven over to the shore to spend the day. With the extension of the trolley lines and the advent of the automobile, transportation was facilitated, and the trips to the shore became an established feature. In 1903, the facilities for enjoying the advantages of the seaside were increased by the acquisition of a small cottage at Rye Beach, which was rented by the hospital for the summer. The cottage furnished the means of providing a shore dinner for the parties who drove over for the day, and of enabling some of the patients to enjoy a residence at the shore for varying periods during the whole summer. It proved to be such a valuable addition to the resources of the hospital that the practice of renting, each season, became an established custom, and was continued up to 1911. In August of that year, a new cottage which the Board of Governors had caused to be erected at Oakland Beach became available, and accessibility to the benefits of the seashore became one of the permanent resources in the treatment of the patients. The lot on which the cottage was erected was purchased in the fall of 1910. It is located at Oakland Beach within easy walking distance of the bathing pavilion. It has a frontage on the water of 75 feet and is 225 feet deep. The cottage is of frame and stucco, is three stories high, and is equipped with all conveniences. It has been named "Rockley Cottage." The ground on which it stands slopes toward the water, and the basement on the water side of the house is entirely above ground. The cottage contains sleeping quarters for 15 persons. There is a large sitting room provided with an open fireplace. The dining room extends the whole length of the house, and is ample not only for those residing in the cottage, but for the parties who come over from the hospital for the day. It is also furnished with a fireplace. The rooms are bright and open to the air, and superb views of the sound and the Long Island shore may be obtained from the windows and porches. The high basement provides an admirable place for dressing rooms and a shower for the use of those who take sea baths. The beach is so near that the bathers can readily walk to and fro in their bathing suits. A small garage in the rear of the house contains a sleeping room on the second story.

The cottage at Oakland Beach is used to as great an extent as possible to afford the patients access to the benefits of sea air, sea bathing, fishing, boating and other seaside advantages. Every day, during the season, weather permitting, a party of seven or eight patients rides over from the hospital and spends the day. During the summer of 1915, 97 such parties, consisting in all of 622 patients, made the trips. Those who are well

enough to take a swim in the sound are given an opportunity. Some take country walks. Others spend the day on the porches, or sit in the summer house on the rocky water front. There is a croquet lawn which also affords a means of diversion and exercise. Occasionally a patient may go fishing. When the cottage was opened in 1911, Dr. Lyon, who had recently resigned from the position of medical superintendent of the hospital, very kindly offered his 40-foot launch for the use of the patients. About 50 trips were enjoyed each season, until, alas! on August 3, 1915, during a remarkably severe storm, the launch foundered at its moorings and became a total loss. These trips were very enjoyable and beneficial and were made without an accident. Everyone enjoys dinner at the cottage, appetites being sharpened by the invigorating effects of the morning ride, the sea air, the bath, and the homelike surroundings and food service. The ride home in the late afternoon provides an attractive completion of the day. The vehicle which has been used for the ride to and from the beach is a Chase supply wagon or stage. It is not an especially attractive or comfortable conveyance and is used for carrying supplies as well as the patients. The trip is looked upon as a picnic, however, and the party that starts in the morning from the hospital is none the less happy because of the character of the vehicle. Nevertheless, the governors have, this spring, authorized the purchase of a more suitable motor car which will be used solely for beach and picnic parties.

The number of patients who remain at the cottage for more than one day varies from seven to nine, and they remain for periods varying from a few days to several weeks. The patients are selected with reference to suitability and to the probability of distinctly beneficial effects. Special efforts are made to utilize the cottage in the treatment of convalescents, especially among the women. The women are more contented at the cottage than the men who prefer to have access to the outdoor sports and companionship available at the hospital, and to ride over to the cottage one or more times a week and spend the day. The benefit derived from a stay at the cottage is sometimes very great, and in some instances a distinct impetus towards recovery has been given. A school teacher who spent part of the summer of 1915 there writes that "The Beach Cottage part of the summer of 1915 was the beginning of my improvement and we all felt that it was the lift we otherwise would not have had."

The permanent organization of the cottage consists of a charge nurse, a second nurse, a cook, a housemaid and a man. Additional nurses are furnished as required by the number and character of the patients in residence. Nurses also accompany the patients who come over for the day. One room is reserved for the use of nurses who may be sent over for a few days or longer to rest or recuperate. A physician from the hospital visits the cottage daily.

The expenses of the cottage and of the transportation to and fro, are borne in part only by the charges made to patients who are able to pay. The balance is paid from the funds of the hospital, and in affording the patients access to the benefits of the seashore medical considerations prevail.

—*Brooklyn State Hospital, Brooklyn.*—By act of legislature the name of this hospital was changed from Long Island State Hospital to Brooklyn State Hospital.

In May, last, ground was broken for the erection of a reception building, and a building for chronic patients. The foundations for both of these are well under way. Together they will accommodate about 600 patients.

—*Buffalo State Hospital, Buffalo.*—No new buildings at this hospital were authorized by the legislature; and, in fact, none are desired on this acreage even though the population is several hundred over the certified capacity.

During the half year, there have been erected two new horse-power boilers. There has also been erected a water-softening apparatus for treating the hard water supplied this institution. The beneficial results of water so treated are pronounced, both in the matter of boiler scale and in the lessened amount of soap required in the laundry, effecting valuable saving.

The graduating exercises of the Training School were held September 29, 1916. Dr. Renwick R. Ross, Superintendent of the Buffalo General Hospital, addressed the graduates, and a class of 17 was given diplomas.

—*Craig Colony For Epileptics, Sonyea.*—An appropriation of \$35,000 was received from the legislature of 1916 for the erection of a cold storage plant in connection with the colony store, this to also provide facilities for the making of artificial ice. An appropriation of \$25,000 was received for alterations to the water softening and purifying plant, so as to materially increase its capacity. Bids are to be received in October for these two items.

Money has been made available for two dormitories with a total capacity of 120 patients, which are to be erected in the west group, thus adding to the colony's capacity for caring for epileptics of lowered mentality.

Four nurses were graduated from the training school for nurses on the evening of September 12.

—*Dannemora State Hospital, Dannemora.*—The construction of the institution has continued as heretofore without contracts, all work being done by the hospital organization of employees and patients. The southwest wing is now completed and occupied. This wing provides room for approximately 100 patients and 20 employees. The excavation for the northwest wing will soon be completed and the foundation will be in place by the onset of winter. The assembly hall, which, owing to the overcrowding of the hospital has been used as a day hall for several years, has been vacated and a permanent stage has been constructed therein and equipped with scenery and a drop curtain. A commodious bowling alley has likewise been constructed in the basement of Ward 4; all of this work being accomplished by means of institution labor, with but a small expenditure for material.

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The quarrying and dressing of stone has come to be one of the hospital's most satisfactory special industries. It furnishes employment for about 25 patients throughout the year and a number so employed, who have become skilled stonecutters, have left the institution well equipped with a means of livelihood. A considerable portion of the granite removed in excavating for the new wing will be available for building stone, and a supply of trap rock for roads was also obtained.

The labor of patients has been utilized, so far as possible, in all departments of the hospital, approximately 50 per cent of the inmates being employed at some useful occupation. Among these are a number showing marked mental deterioration, who, when the effort to employ them was first made were so indifferent, confused and inattentive as to make practical results seem quite out of the question. By persistent effort, however, these patients have so improved as to co-operate with others, carry out reasonably simple instructions, and to a limited extent show some initiative, thus demonstrating the value of practical employment as a re-educational measure and at the same time accomplishing something worth while for the institution.

Dr. Lloyd T. McNulty having resigned it has been necessary to postpone for a time some of the special pathological work which he had undertaken.

—*Kings Park State Hospital, Kings Park, Long Island.*—The work of construction of the additions to Groups 2 and 3 is in progress and it is hoped that they will be ready for occupancy by October 1, 1916. The additions, however, can only be partly utilized, due to the item of furniture being cut from the appropriation bill.

An item of \$30,000 in the appropriation bill, for additional funds for the construction of the Employees' Home, was disapproved, which has made it necessary for the State Hospital Commission, the managers and the superintendent to hold a conference with the state architect, with a view of preparing different plans and specifications.

At the refrigeration plant new ammonia heating coils have been put in. An old steam brine circulating pump has been taken out and a new electrical motor-driven pump installed. By making these changes the capacity of the refrigeration plant was increased, and at the same time the cost of the operation of the plant was reduced through the institution being able to lower the steam pressure on the lines running to the refrigeration plant. Due to the increased capacity of the refrigeration plant, it was possible to construct an additional refrigeration room in which to refrigerate cereals during the summer, so as to keep the cereals free of bugs and worms which develop rapidly near the seashore.

One of the new wells has been completed, and the second well is now being drilled.

A certificate was received from the American Medico-Psychological Association at New Orleans, in April, for the best raffia baskets shown by any exhibiting hospital.

The training school exercises were held on June 12, 1916. Twelve women and three men were graduated. The graduating address was delivered by Dr. C. Floyd Haviland, Superintendent of the Connecticut Hospital for the Insane, at Middletown, Connecticut.

Re-educational and occupational classes, in singing, drawing, common school branches, various forms of arts and crafts work, physical culture classes, etc., have been continued with great success.

Three outfits for leather tooling were purchased and classes were opened in this art.

One "Eureka" rag rug loom has been added for occupational work.

As regards the amusement of patients, the Powers moving picture machine has been brought up to date and a dissolving stereopticon attachment added. Six phonographs, 114 records, 20 card tables, 20 sets of checkers, two sets of ten pins, six bowling balls, baseball bats, balls and gloves were purchased and 14 tennis rackets were restrung.

The Mental Hygiene and Out-Patient Clinic established on Saturday mornings, at the Williamsburg Hospital, Brooklyn, has proven very successful. An average of 25 patients visit each clinic. The patients on parole in Kings County now report at the clinic once a month or oftener if necessary. Patients with threatened, incipient, or well-developed mental symptoms are constantly referred to the clinic by various physicians and charitable organizations, and quite a number also have visited the clinic on account of the publicity given the same by the Bureau of Mental Hygiene of the State Charities Aid Association.

The matter of establishing after-care societies in the counties of Kings, Nassau and Suffolk will be taken up shortly by the Bureau of Mental Hygiene in conjunction with the superintendent of the hospital, various charitable organizations, and others interested in this line of work.

—*Manhattan State Hospital, Ward's Island.*—The following work has been accomplished during the past six months:

The work has been continued on the two buildings under construction previously reported, one for 200 women patients and the other for 150 men patients. These buildings are approaching completion and within a few months will probably be occupied. The work has progressed quite favorably on the new power house. The building is nearly completed and the smoke stack has been finished. The conduits to be connected with the new power house are now being constructed.

Dr. George H. Kirby reported as absent on a six months' leave has returned to his duty at this hospital as Director of Clinical Psychiatry.

One of our men employees, 40 years old, was stricken with Infantile Paralysis and he was removed to the care of the Department of Health. The hospital was placed under quarantine first against children and soon after against all adult visitors except in cases of serious illness of patients or the first visit to patients recently admitted. No other cases have so far developed in the hospital. One notable feature connected with the quarantine is that many of our cases did better while not visited, the quarantine

having lasted about four weeks. The patients appeared to realize that it was impossible for their friends to come. They therefore seemed to accept the situation without its causing any disturbance. The quarantine was terminated on the 16th of September and visits to patients have been renewed.

—*Middletown State Homeopathic Hospital, Middletown.*—The new power house, under construction for the past two years, for the heating of all buildings occupied by patients, including the entire institution, except a few outlying cottages, has progressed during the summer and is almost ready for operation. It has a direct railway switch, covered coal pockets, and large boilers with automatic mechanical stokers.

The hospital made its annual exhibit at the Orange County Fair, showing besides garden and farm products, an attractive floral exhibit, and an exhibit of the patients' handiwork, especially needlework.

New sanitary piggeries are being built according to the state architect's plans.

Ten thousand dollars has been made available toward the construction of a tuberculosis pavilion, plans are under consideration, and it is expected that this building will be constructed by hospital labor. It will have accommodations for 60 patients.

—*Rome State Custodial Asylum, Rome.*—A summer training school for teachers in preparation for teaching special classes in the public schools, and also in institutions for the feeble-minded, was held at this institution July 3-29, 1916.

—*St. Lawrence State Hospital, Ogdensburg.*—The mental hygiene clinics have been continued and the results of this work are very encouraging. New patients have presented themselves for consultation at each session, paroled and discharged patients are interviewed and advised, and relatives obtain information concerning the condition of patients under treatment at the hospital. There is a growing tendency on the part of the physicians of the community to consult with the clinic physician about patients under their care. There have been received from within the hospital district more requests for mental clinics and for lectures on mental hygiene than can at the present time be undertaken.

The social worker visits the homes of all paroled and many discharged patients. In this way the hospital is kept better informed regarding the condition of those on parole. The relatives are enlightened concerning the nature of mental diseases and particularly given suggestions in reference to the handling of the particular case.

On June 18, 1916, one of the staff and 16 employees left the hospital to take up duties with the National Guard of the State of New York.

May 19-21 the students of the senior class of Syracuse University Medical Department, visited the hospital. They were given instruction in psychiatry. Clinics were held at which cases were demonstrated. The

methods of caring for various classes of patients were shown and papers on psychiatric subjects were read by members of the staff.

The occupation work, especially the re-education of the dementia præcox cases, is continued.

The patients are again enjoying the vacation period at Lotus Island.

—*Psychopathic Clinic, New York State Prison, Sing Sing.*—This psychopathic clinic, which is the first to be established in a state prison, began its work about August 1, under the charge of Dr. Bernard Glueck. Each of the prisoners will be given a very careful mental examination and the clinic will at all times be at the service of the prison in dealing with cases in which there is a mental factor. The funds making the clinic possible have been contributed by the Rockefeller Foundation to the National Committee for Mental Hygiene and will be under the immediate supervision of an advisory board consisting of Drs. August Hoch, William Mabon, William L. Russell, George H. Kirby, L. Pierce Clark and Thomas W. Salmon.

—*Utica State Hospital, Utica.*—In common with the other New York state hospitals, the fiscal year which formerly began October 1, has been changed by legislative enactment, and now commences July 1. This change resulted in abbreviating the last fiscal year to a period of nine months. The legislature also made a radical change in the financial system, instituting an annual budget.

During the spring months, the senior class at the Syracuse Medical College had several psychiatric clinics at this institution.

A slight fire in a linen closet in the Nurses' Home was extinguished by the hospital force. The damage was trifling.

Miss Tibbitts, the principal of the training school, spent several weeks in New York taking the summer course in methods of teaching at Columbia University.

In the spring, an after-care agent was appointed from the nursing force. She has since been actively engaged in the various duties of this position and her labors have already shown excellent results.

Owing to the prevalence of infantile paralysis, children under 16 years of age have been prohibited from visiting the wards.

There has been no new construction of importance at this institution during the past six months.

—*Willard State Hospital, Willard.*—The number of patients admitted from the hospital district during the nine months ending June 30 was 117 men and 102 women; of these 85 men and 73 women were first admissions, and 32 men and 29 women readmissions. Six men and three women were admitted on voluntary application. The hospital district comprises nine counties, with an aggregate population of approximately 400,000. The recovery rate for the nine months period, computed on the number received, was 34 per cent. As in the case of readmissions, about 50 per

cent of those recovered belonged to the manic depressive group. There were 150 deaths. One woman died at the age of 104, and another at the age of 100 years. The daily average population was 1185 men and 1265 women, a total of 2450.

Six men and eight women graduated from the School of Nursing. The present senior class is comprised of six men and fifteen women, and the junior class, six men and seven women.

The sum of \$12,000 has been appropriated for additional fire protection; part of this will be spent for fire escapes at several of the buildings, and part for standpipes and hose in the wards at four of the detached groups. A concrete silo has been constructed at the Lake Farm, which is the fourth to be built of this material.

NORTH CAROLINA.—*State Hospital, Morganton*.—At the annual meeting of the Board of Managers held April 6, 1916, plans for a new women's building to accommodate 100 patients were approved and arrangements made to begin the building.

—*Central State Hospital, Dix Hill, Raleigh*.—Charges of mismanagement of various sorts were made against the superintendent of this institution, Dr. Albert Anderson, by Charles F. Hardesty a former steward, and an individual named Latta. Investigation by the Board of Managers showed that these were unfounded, that conditions due to the old and rather inadequate equipment of the hospital might be improved, but that the institution was being conducted well and properly.

OHIO.—The Ohio Society for Mental Hygiene was organized at a meeting held in Cleveland, May 17, 1916. Mr. Clifford W. Beers, Executive Secretary of the National Committee for Mental Hygiene, made an address outlining the scope of the work which such a society could accomplish. Dr. Arthur F. Sheppard, of Columbus, was elected Chairman and empowered to appoint a committee on permanent organization.

OKLAHOMA.—*Oklahoma State Hospital, Norman*.—There is at present under construction at this hospital two one-story fire-proof cottages for women each covering an area of 54 by 150 feet. Ground has also been broken for a very large and complete power plant which will house the machinery necessary to supply heat, light, cold storage, etc.

PENNSYLVANIA.—By a decision of the Supreme Court it will now be possible for the state to reimburse itself for expenditures, believed to have been thousands of dollars, which have been used in caring for insane patients who were admitted as indigent, but who had estates at the time or who received inheritances subsequently.

—*Blair County Hospital for the Insane, Hollidaysburg*.—An air lift outfit is being installed in the artesian well, close to the boiler house, as an auxiliary to the water supply which comes from the mountains. A

building to house the air compressor, centrifugal pump, gas engine, air and water tanks is being constructed by patients. The roof and making of window and door frames are the only parts of the building not constructed by patient labor.

—*Friends' Hospital for the Insane, Frankford, Philadelphia.*—The managers of this hospital have turned over to the State Forestry Department 19 acres of land located at Fox Chase as an auxiliary forest reserve. Besides the grove of trees already on the property the managers will plant 16,000 trees, the state furnishing the saplings.

—*Philadelphia Hospital for the Insane, Philadelphia.*—The transfer of 24 patients, of whom 21 were men, to the State Asylum for Chronic Insane at Wernersville has slightly relieved the crowded conditions here. The expenses of these patients will be shared equally by the city and state. They are expected to remain at Wernersville until the new buildings for the city's insane at Byberry are finished.

—*State Hospital for the Insane, Norristown.*—Four cottages for tubercular women patients are now under way and will accommodate, when finished, from 82 to 100 patients.

RHODE ISLAND.—The Rhode Island Mental Hygiene Society was organized and incorporated March 21, 1916. The officers are: President, Rathbone Gardner; Vice-Presidents, W. H. P. Faunce and R. H. I. Goddard, Jr.; Executive Committee, Dr. G. Alder Blumer, Dr. Arthur H. Harrington, Dr. Charles A. McDonald, Dr. Arthur H. Ruggles, Prof. James Q. Dealey, Judge Howard P. Gorham, and the Secretary, Dr. Frederick J. Farnell. The Treasurer is Zechariah Chaffee.

SOUTH CAROLINA.—*South Carolina Hospital for the Insane, Columbia.*—The hospital has continued to be conducted along the lines indicated in the last "Half-Yearly Summary."

On the reception services, the dormitory plan has been adhered to, all new patients being kept in bed for a week or as much longer as indicated. During this time they are examined according to the prescribed form, each member of the staff being assigned cases to examine in rotation. They are then presented at the regular morning staff meeting.

In the matter of treatment, continuous baths and packs have been resorted to for excitement. All mechanical restraint has been abolished and seclusion reduced to a minimum. The abolishment of restraint has been accomplished with no untoward results. One white woman patient, said to have worn a belt and wristlets for 10 years and frequently tied to a bench and with feet tied together besides, long known as the "most violent and dangerous patient in the hospital," showed no unusual reactions for a demented *præcox* when these were removed, but became more agreeable, tidy, and less destructive.

Re-education, carried on extensively in a general way, has been applied intensively in several cases. The results demonstrated not only the benefit to be derived by the patient from individual attention, but also the advantage to the state from an economic standpoint. One white female patient, a case of dementia præcox, was in a short time changed from a destructive and disturbed character to a productive and useful member of the hospital. Whereas, formerly, she habitually tore up each day the blankets and clothes furnished her, she now not only has become neat in appearance and habits, but does considerable plain sewing, making garments good enough to use for other patients, and helping with the housework.

The hospital has a full-time instructor in diversional occupation. During the past six months, the number of patients occupied daily has increased from 771 in January to 918 in June.

At the meeting of the American Medico-Psychological Association in New Orleans in April, 1916, this hospital was fortunate enough upon the occasion of its first exhibit, to receive the "first prize for the best general exhibit showing re-educational methods."

Additional facilities for recreation have been provided by a baseball field with a covered grand-stand to accommodate 300 patients.

The auto truck is utilized to take out riding in the evening groups of patients occupied in the various industries, both as a reward and as a stimulus for further efforts on their part.

A band composed of white male patients and attendants has been organized and has made sufficient progress to give quite creditable concerts.

The hospital is fortunate, and, it is believed, rather unique as a state hospital for the insane, in having all its white female nurses under training. There were 19 graduates at the June commencement of the training school for nurses.

During the six months, a number of improvements have been made in methods and in equipment.

The preparation of the food has been centralized in the large, new kitchen and all the small, scattered kitchens abandoned. The new congregate dining room for white women patients has been occupied, increasing the capacity of the wards by the abandoning of the numerous small ward dining rooms.

A congregate dining room for white men, similar to that for white women is under construction.

The bakeshop has been enlarged.

A central power and heating plant has been built and the newly remodelled wards and other parts of the hospital equipped for steam heat.

The portion of the main building formerly occupied by the kitchen has been remodelled and equipped as a storeroom.

The new dairy was occupied on March 4.

The amusement hall has been redecorated.

New toilet and shower bath facilities have been installed in the building for colored male patients.

As a continuation of the improvements of the wards, another section for white male patients is now in the process of remodeling, this unit being designed especially for the reception service and for the hospital and feeble and aged patients.

**SOUTH DAKOTA.**—*Asylum for Insane Indians, Canton.*—A concrete block dairy barn with a capacity for 20 head of stock, is in course of construction. It is intended to replace all of the dairy herd with a good breed of Holsteins.

The Seventh District Medical Society, of which the superintendent is vice-president, will be entertained at the hospital on the first Tuesday in October. The scientific end of the entertainment will be a dissertation on the various forms of mental disease with presentations of typical cases.

**TEXAS.**—*State Lunatic Asylum, Austin.*—During the past year a hydrotherapeutic equipment has been installed for the treatment of acute cases.

Additions have been made to the power house, and a new brick carpenter's shop has been completed.

**CANADA.**—**ONTARIO.**—*Eastern Hospital for Insane, Brockville.*—The new reception hospital in connection with this hospital was opened on August 16, 1916. It is built of brick, is three stories high, and is admirably situated about midway between the Prescott Road and the main building of the institution. Nature has supplied a beautiful setting for it as it is placed in a grove of trees and has a splendid outlook on the St. Lawrence River. It is intended to accommodate 60 patients, 30 of each sex. Every comfort and convenience known to the science of mental healing has been carefully considered in the planning of this structure. In addition to four solariums, four large verandas have been provided where the patients will be treated with nature's own healers, fresh air and sunshine. These verandas have been provided with closed windows for winter so that they can be used at all seasons of the year. Beds have been supplied with special rollers so that the nurses can move even the weakest of patients onto the verandas without any disturbance.

The main floor of the hospital contains the doctor's office and dispensary, the head nurse's suite of rooms, the diet kitchen, fitted with every modern and labor-saving device, and the wards. The special bathrooms and lavatories are all tiled and fitted in the most modern manner.

On the second floor are the resident physician's apartments (occupied by the assistant superintendent, Dr. Geo. C. Kidd), patient's wards and private rooms, attendants' quarters, also spray bath, bathrooms, etc.

The third floor is fitted up with nurses' quarters, storage rooms for patients' clothing, and the operating room which has in connection with it a sterilizing, anæsthetic, doctors' and nurses' rooms. All the fittings are of the most modern type and it is one of the best operating rooms to be found east of Toronto.

The basement contains the boilers for heating water, electric motors for the operation of the elevator—which works automatically by the key

method—also the electric ventilating system which is very complete, changing the air in the whole building in a very short time by means of fans, one placed in the basement and the other at the top of the building. The hospital is to be heated from the central heating plant.

An electric lift is provided for conveying food from the kitchens to the second floor where food wagons are provided to transfer it when required to the pleasant dining rooms located on this floor.

A noticeable feature of this building is the homelike atmosphere that permeates into every nook and corner.

The grounds surrounding the hospital are being laid out in terraces and, in a short time, will be transformed into a bower of flowers and shrubbery.

The building is intended to be used entirely for the treatment and care of recoverable patients. Continuous baths with other hydrotherapeutic equipment and massage tables are being provided so that nothing will be left undone which will give the patient an opportunity to make a recovery. The entire equipment of the building—with few exceptions—have been manufactured at the Ontario Reformatory, Guelph, Ontario.

—*Ontario Military Hospital, Cobourg.*—Owing to the great war and to the fact that a number of returned soldiers suffering from shell shock, nervous diseases, and mental trouble aggravated by their hard life in the trenches, to their exposures, and the difficulty, at times, in obtaining proper nourishment, it has been necessary to make special provision for their care.

With this view in mind, the Provincial Secretary's Department of the Ontario Government has provided that the Hospital for the Insane at Cobourg be converted into a military hospital, to be known as the Ontario Military Hospital, Cobourg. Extensive alterations have been made in the interior of the building in order to provide proper facilities for the treatment of mental and shock cases. On the ground floor two bathrooms, each equipped with two continuous flowing baths, have been added, and adjoining each bathroom is the massage room, equipped with marble massage slab, shampoo faucets, etc.

In the basement four treatment rooms have been provided. One room is set apart for electric treatment and is equipped with a high-frequency machine and a treatment wall board. In another room are continuous flowing baths and an electric-hydric bath, together with apparatus for the application of faradic, galvanic and sinusoidal currents. A third room is equipped with a controlling table of marble arranged with mixing chambers with the necessary hot and cold water supply valves for the control of Scotch douche, needle sprays, waves, showers, etc. In this room are also located electric-light and hot-air baths, as well as marble massage slab.

Another room is set apart as a dressing and rest room, and is equipped with the necessary beds, blanket warmers, etc.

Miss Gibson, Matron of the Brockville Hospital for Insane, has been appointed superintendent of nurses, and all nurses are graduates of the Ontario Training School for Nurses.

—*Hospital for the Insane, Hamilton.*—A fire occurred at this hospital early Sunday morning, April 23, 1916, in which there were fortunately no lives lost. The damage caused was estimated at \$30,000.

The fire was first discovered by the night supervisor, when making his rounds about 1 a. m., in the ceiling of the third floor of Orchard House, which was erected about 20 years ago, and which housed 185 men patients and 160 women patients. These were aroused with some difficulty as many protested against such early rising, and others fought to remain in their quarters and had to be removed by force. Defective electric wiring was believed to have been the cause.

—*"Fettercairn," Chaffey's Locks.*—This is a small private hospital or camp for returned soldiers suffering from various nervous conditions. A certain member of one of Canada's wealthiest families had gone overseas as captain in the first contingent and had been killed in action shortly after the opening of the war. He had seen something of the effect of war on the nervous system among his comrades, and left in his will provision for the establishment of some kind of a suitable place for the treatment of such cases. His family have followed his wish and accordingly a summer home on an island in the chain of Rideau Lakes between Kingston and Ontario was given over to the purpose. The necessary additions having been made last spring, there is at present room for about 25 men. The government offered to pay for their maintenance, but the offer was declined and the hospital is financed by the private funds of one family. The men come for two weeks, being transferred from other hospitals and convalescent homes. At the end of the fortnight they are sent on or are detained longer as their condition seems to indicate. One member of the family, a sister of the dead captain, has devoted practically her entire time to the fitting out of the place and has organized a very admirable thing.

The problem of handling nervous cases among soldiers has not yet been adequately attacked in Canada. Many severe types are probably not returned from England at all, and milder cases, to which an alienist would likely give attention, are quite liable to be kept at the front. No sufficient differentiation has yet taken place, but it will be necessary later.

Dr. Clarence B. Farrar, recently assistant physician at New Jersey State Hospital at Trenton, is physician-in-charge at this hospital.

## Appointments, Resignations, Etc.

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- ADAMS, DR. JAMES T., appointed Assistant Physician at Psychopathic Department of Boston State Hospital at Boston, Mass., August 1, 1916.
- ADAMSON, DR. ELIZABETH I., appointed Assistant Physician at Athens State Hospital at Athens, Ohio.
- ADLER, DR. HERMAN M., Chief-of-Staff at Psychopathic Department of Boston State Hospital at Boston, Mass., granted a six months leave of absence to make a survey of Illinois, under the direction of the National Committee for Mental Hygiene.
- ALLEN, DR. EDWIN C., appointed Clinical Assistant, Manhattan State Hospital, Ward's Island, N. Y., April 1, 1916, resigned July 1, 1916.
- ANDERS, DR. PERCY C., appointed Medical Interne at Government Hospital for the Insane at Washington, D. C., August 25, 1916.
- ANDERSON, DR. VICTOR V., appointed Physician-in-Charge of the new psychologic laboratory connected with the Boston Police Court.
- ASHBY, DR. THOMAS A., Consulting Gynecologist to Mount Hope Retreat at Baltimore, Md., died June 26, 1916, aged 68.
- ASPER, DR. BURT J., formerly Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md., appointed Assistant Physician at Springfield State Hospital at Sykesville, Md., June 1, 1916.
- BAKER, DR. WILLIAM HENRY, Trustee of Gardner State Colony at Gardner, Mass., died at his home in Lynn, August 22, 1916, aged 72.
- BARNES, DR. FRANCES M., JR., formerly Assistant Physician at Government Hospital for the Insane at Washington, D. C., appointed Medical Director of the Glenwood Sanitarium at St. Louis, Mo.
- BENTLEY, DR. INEZ A., Woman Physician at Kings Park State Hospital at Kings Park, N. Y., granted four months leave of absence to assist in a survey of the feeble-minded of Nassau County.
- BEVIS, DR. W. W., appointed Assistant Physician at Florida Hospital for the Insane at Chattahoochee.
- BLOSSOM, DR. HARRY S., Assistant Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., appointed Assistant Physician at Southern California State Hospital at Patton, June 21, 1916.
- BORDEN, DR. PARKER G., Medical Interne at Buffalo State Hospital at Buffalo, N. Y., resigned to enter private practice.
- BOWDEN, DR. CHARLES PROTSMAN, Manager of State Hospital No. 3 at Nevada, Missouri, was killed by the collapse of a barn in which he had taken refuge from a tornado, April 19, 1916.
- BOWMAN, DR. MARY R., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., appointed Acting Woman Physician during Dr. Bentley's absence.
- BRACKETT, MRS. LUANN L., Trustee of Massachusetts School for the Feeble-Minded at Waltham, died.
- BRIDGMAN, DR. LEMUEL R., Assistant Superintendent of Cleveland State Hospital at Cleveland, Ohio, resigned.
- BROWN, DR. LOUIS R., Assistant Physician at Connecticut Hospital for the Insane at Middletown, promoted to First Assistant Physician, September 1, 1916.
- BRUSH, DR. EDWARD N., Superintendent of Sheppard and Enoch Pratt Hospital at Towson, Md., was operated upon for appendicitis at The Johns Hopkins Hospital, April 25, 1916.
- BUMFUS, DR. H. C., President of Tufts College, elected Trustee of Massachusetts School for the Feeble-Minded at Waltham.

- BUNKER, DR. SIDNEY M., Assistant Physician at Worcester State Hospital at Worcester, Mass., resigned.
- CALDER, DR. DANIEL H., Superintendent of State Mental Hospital at Provo, Utah, resigned May 20, 1916, after a service of 11 years. He will engage in private practice at Pasadena Cal., limiting his work to mental and nervous maladies.
- CALDWELL, DR. CHARLES B., Assistant Superintendent at Lincoln State School and Colony at Lincoln, Ill., transferred to Peoria State Hospital at Peoria, Ill.
- CALOWAY, DR. F. O., appointed Assistant Physician at State Lunatic Asylum at Austin, Texas, August 1, 1916.
- CAMPBELL, DR. GEORGE B., First Assistant Physician at Utica State Hospital at Utica, N. Y., is in Texas with the Medical Reserve Corps.
- CAMPBELL, DR. JOSEPH A., Managing Officer of Watertown State Hospital at Watertown, Ill., transferred to Anna State Hospital at Anna, Ill.
- CARROLL, DR. K. A., appointed Interne at State Hospital at Raleigh, N. C., September 15, 1916.
- CHALMERS, DR. HATTIE E., Assistant Physician at Massachusetts State Infirmary at Tewksbury, resigned.
- CHAPMAN, DR. ROSS MCCLURE, Senior Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., appointed Clinical Director at Government Hospital for the Insane at Washington, D. C., August 1, 1916.
- CHASE, DR. H. L., Assistant Physician at Psychopathic Department of Boston State Hospital at Boston, Mass., transferred for one year's service from July 15, 1916, to the Boston State Hospital at Dorchester Centre, Mass.
- CLARK, DR. TALIAFERRO, of the United States Public Health Service, appointed Interne at Psychopathic Department of the Boston State Hospital at Boston, Mass., July 10, 1916.
- CLARKE, DR. CHARLES K., formerly Superintendent of Hospital for the Insane at Toronto, Ontario, elected President of a Toronto society which has been formed to promote the interests of the feeble-minded.
- CLIFFORD, DR. WALLACE A., appointed Interne at Psychopathic Department of Boston State Hospital at Boston, Mass., July 3, 1916.
- COHN, DR. EUGEN, Assistant Superintendent at Kankakee State Hospital at Kankakee, Ill., transferred to Chicago State Hospital at Dunning, Ill. He was tendered a dinner by the staffs of the Kankakee State Hospital and State Psychopathic Institute, April 27, 1916.
- COOLEY, DR. RAYMOND L., Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., appointed Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., April 21, 1916.
- CONTER, DR. A. E., Assistant Physician at Florida Hospital for the Insane at Chattahoochee, promoted to Chief Physician.
- COPPINGER, DR. SARAH E., Trustee of Foxborough State Hospital at Foxborough, Mass., resigned.
- COTTON, DR. JULIA C., Assistant Physician at New Jersey State Hospital at Morris Plains, resigned.
- CRANFORD, DR. W. S., appointed Assistant Physician at East Mississippi Insane Hospital at Meridian, October 1, 1916.
- CROFTON, DR. GEORGE H., appointed Assistant Physician at Bridgewater State Hospital at Bridgewater, Mass.
- DANIELSON, DR. WILLIAM A., appointed Third Assistant Physician at Nebraska State Hospital at Ingleside.
- DAVIS, DR. HAIM I., formerly Superintendent of Cook County Psychopathic Hospital at Dunning, Ill., appointed Attending Neurologist at Michael Reese Hospital at Chicago, Ill.
- DAVIS, DR. RALEIGH L., Assistant Physician at State Lunatic Asylum at Austin, Texas, resigned October 15, 1915.
- DEARBORN, PROF. WALTER F., appointed Trustee of State Infirmary and State Farm at Tewksbury, Mass.
- DEWEES, DR. CORNELIUS, Physician at Laurel Sanitarium at Laurel, Md., married April 26, 1916, to Miss Bessie Anna Munnikhuyzen at Baltimore.

- DEWEY, DR. CHARLES G., appointed Associate Member of Massachusetts Commission on Mental Diseases.
- DOUGLAS, DR. GILBERT F., Assistant Physician at East Mississippi Insane Hospital at Meridian, resigned October 1, 1916.
- DURHAM, DR. WALLIS W., appointed Second Assistant Physician at Western State Hospital at Hopkinsville, Ky.
- DURSCHMIDT, DR. ELIZABETH WELLS, appointed Acting Assistant Physician at Kings Park State Hospital at Kings Park, N. Y.
- DUVAL, DR. LEON E., appointed Medical Intern at Government Hospital for the Insane at Washington, D. C., July 22, 1916.
- EMERSON, DR. CLARENCE, Pathologist at Nebraska Hospital for the Insane at Lincoln, resigned to enter private practice in Lincoln, and appointed Consulting Pathologist at Nebraska Hospital for the Insane at Lincoln.
- FARRAR, DR. CLARENCE B., Assistant Physician at New Jersey State Hospital at Trenton, N. J., appointed Physician-in-Chief at Fettercairn, a private hospital for the care of nervous invalids resulting from the European War, at Chaffey's Locks, Ontario.
- FISH, DR. JULIA F., Woman Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., granted six months leave of absence from April 1, 1916.
- FISHER, DR. AMOS T., Pathologist at State Hospital No. 2 at St. Joseph, Missouri, resigned.
- FISHER, DR. GERTRUDE D., Assistant Physician at Psychopathic Department of the Boston State Hospital at Boston, Mass., appointed Assistant to Dr. Simon Flexner at the Rockefeller Institute for Medical Research.
- FISHER, DR. JESSIE W., Pathologist at Connecticut Hospital for the Insane at Middletown, appointed Pathologist at Middlesex Hospital at Middletown, Connecticut, August 1, 1916.
- FOWLER, DR. C. F., appointed Assistant Physician at State Lunatic Asylum at Austin, Texas.
- FREEMMEL, DR. ISAAC F., Assistant Superintendent at Chester State Hospital transferred to Lincoln State School and Colony at Lincoln, Ill.
- GARRETT, DR. ROBERT EDWARD, First Assistant Physician at Spring Grove State Hospital at Catonsville, Md., married September 30, 1916, to Mrs. Ellen Bird Peed.
- GERVAIS, DR. HARRIET M., Assistant Physician at Psychopathic Department of Boston State Hospital at Boston, Mass., appointed to a position at Randall's Island, N. Y., July 14, 1916.
- GIBSON, DR. EDWARD T., Assistant Physician at Psychopathic Department of the Boston State Hospital at Boston, Mass., appointed Pathologist and Clinical Director at Middletown State Hospital at Middletown, Conn., July 25, 1916.
- GILFILLAN, DR. DONALD R., Assistant Physician at Grafton State Hospital at Worcester, Mass., appointed Assistant Physician at Worcester State Hospital at Worcester, Mass.
- GILLIAM, DR. CHARLES F., Superintendent of Columbus State Hospital at Columbus, Ohio, died April 12, 1916, four hours after being struck by a railroad train while crossing the tracks of the Pennsylvania Railroad in his automobile.
- GINSBURG, MR. EDWARD E., Trustee of Worcester State Hospital at Worcester, Mass., term expired.
- GLUECK, DR. BERNARD, Senior Assistant Physician at Government Hospital for the Insane at Washington, D. C., appointed Alienist at New York State Prison at Sing Sing. He was tendered a dinner, July 11, 1916, by about 30 of his Washington friends, at which the superintendent of the hospital, Dr. William A. White, acted as toastmaster.
- GOODNER, DR. RALPH A., Superintendent of Anna State Hospital at Anna, Ill., transferred to Kankakee State Hospital at Kankakee, Ill.
- GORDON, DR. S. F., appointed Assistant Physician at Connecticut State Hospital for the Insane at Middletown, September 1, 1916.
- GREENE, DR. RALPH N., Chief Physician of the Florida Hospital for the Insane at Chattahoochee, appointed First Lieutenant in the army hospital service.
- GRIFFITHS, DR. D. G., Assistant Physician at Nebraska State Hospital for the Insane at Lincoln, appointed Superintendent of Nebraska State Institution for Feeble-Minded at Beatrice.

- HALE, DR. R. A., appointed Interne at State Hospital at Raleigh, N. C., July 1, 1916, and resigned September 15, 1916, to accept a position at the Psychopathic Hospital of the University of Michigan at Ann Arbor.
- HAMILTON, DR. SAMUEL W., Senior Assistant Physician at Utica State Hospital at Utica, N. Y., resigned July 7, 1916.
- HARRIS, DR. ISHAM G., Superintendent of Mohansic State Hospital at Mohansic, N. Y., appointed Superintendent of Brooklyn State Hospital at Brooklyn, N. Y., August 1, 1916.
- HAUSMAN, DR. SAMUEL W., appointed Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., July 1, 1916.
- HEYEN, DR. JOHN C., appointed Manager at Kings Park State Hospital at Kings Park, N. Y., March 24, 1916.
- HELLER, DR. P. K., appointed Assistant Physician at Pontiac State Hospital at Pontiac, Michigan.
- HICKS, DR. JOHN, Assistant Superintendent of Brandon Hospital for the Insane at Brandon, Manitoba, promoted to Superintendent.
- HUGHES, DR. CHARLES HAMILTON, Editor of the Alienist and Neurologist, died at his home, July 13, 1916, aged 77.
- HURD, DR. RALPH A., Assistant Physician at Connecticut State Hospital for the Insane at Middletown, resigned December 31, 1915, to be House Physician at Roosevelt Hospital at New York City.
- HURLEY, MISS MILDRED T., appointed Social Service Worker at Middletown State Homeopathic Hospital at Middletown, N. Y., March 1, 1916.
- HYDE, DR. ARTHUR G., Acting Superintendent of Cleveland State Hospital at Cleveland, Ohio, appointed Superintendent.
- JACOBS, DR. W. H., Assistant Physician at Chicago State Hospital at Dunning, Ill., transferred to Watertown State Hospital at East Moline, Ill., May 1, 1916.
- JAMISON, DR. EMILIE C., appointed Acting Assistant Physician at Kings Park State Hospital at Kings Park, N. Y.
- JAQUITH, MISS LUCIA L., appointed Trustee of Massachusetts School for the Feeble-Minded at Waltham.
- JENKINS, DR. W. G., appointed Interne at State Hospital at Raleigh, N. C., July 1, 1916.
- JOY, DR. CHARLES A., appointed Junior Assistant Physician at Craig Colony at Sonyea, N. Y., June 19, 1916.
- KALLOCH, DR. DUDLEY C., Medical Interne at Government Hospital for the Insane at Washington, D. C., promoted to Junior Assistant Physician, July 1, 1916, and resigned August 5, 1916.
- KELLEHER, DR. JAMES P., Assistant Physician promoted to Senior Assistant Physician, Manhattan State Hospital, Ward's Island, N. Y., July 1, 1916.
- KELLY, DR. PATRICK M., Superintendent of Kankakee State Hospital at Kankakee, Ill., resigned on account of ill health.
- KENISTON, DR. J. M., Assistant Physician at Connecticut Hospital for the Insane at Middletown, resigned October 1, 1916, and will engage in literary work.
- KILPATRICK, DR. ELIZA, appointed Junior Assistant Physician at Northampton State Hospital at Northampton, Mass., August 1, 1916.
- KLINE, DR. GEORGE M., Superintendent of Danvers State Hospital at Hathorne, Mass., appointed Director of Massachusetts Commission on Mental Diseases.
- KRAUSS, DR. ELLA E., appointed temporarily as Woman Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., April 10, 1916.
- LEAK, DR. R. L., appointed Acting First Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., during the absence of Dr. Rosanoff.
- LEE, DR. BOOKER, Assistant Physician at Massillon State Hospital at Massillon, Ohio, resigned to enter practice in Richmond, Va.
- LE RUE, DR. FRANK G., appointed Superintendent of Western State Hospital at Hopkinsville, Ky.
- LIBBY, DR. MILDRED E., appointed Assistant Physician at Wrentham State School, at Wrentham, Mass., August 20, 1916.
- LIEUALLEN, DR. RAY O., Assistant Physician at State Hospital No. 2 at St. Joseph, Missouri, resigned.

- LODGE, DR. EDMUND A., appointed Assistant Physician at State Hospital for Epileptics at Parsons, Kansas.
- LYNCH, MISS CATHERINE V., appointed Social Service Worker at Medfield State Hospital at Medfield, Mass.
- MACKAY, DR. H. A., Resident Physician at Ontario Reformatory at Guelph, and formerly Assistant Physician at Toronto Hospital for the Insane at Toronto, appointed Assistant Superintendent at Ontario Military Hospital at Cobourg.
- McFADDEN, DR. JOHN J., Superintendent of Brandon Hospital for the Insane at Brandon, Manitoba, resigned.
- McIVOR, DR. GEORGE A., Senior Assistant Physician at Worcester State Hospital at Worcester, Mass., resigned.
- McKELVEY, DR. SAMUEL W., Assistant Physician at Anna State Hospital at Anna, Ill., transferred to Kankakee State Hospital at Kankakee, Ill.
- McKINNY, HON. ALEXANDER, Manager of Kings Park State Hospital at Kings Park, N. Y., resigned.
- McNULTY, DR. LLOYD T., Medical Intern at Dannemora State Hospital at Dannemora, N. Y., resigned to enter general practice.
- McPHERSON, DR. GEORGE E., Senior Assistant Physician at Psychopathic Department of the Boston State Hospital, appointed First Assistant Physician at Medfield State Hospital at Medfield, Mass.
- MACDONALD, DR. JOHN B., Assistant Superintendent of Danvers State Hospital at Hathorne, Mass., promoted to Superintendent.
- MAHAN, DR. HORACE P., Assistant Physician at State Hospital for Epileptics at Parsons, Kansas, resigned April, 1916, to enter private practice in Kansas City.
- MARNELL, DR. F. S., Assistant Physician at Mt. Pleasant State Hospital at Mt. Pleasant, Iowa, appointed Assistant Physician at Nebraska State Hospital at Lincoln.
- MASON, DR. WILLIAM H., Medical Intern promoted to Assistant Physician, Manhattan State Hospital, Ward's Island, N. Y., September 13, 1916.
- MAY, DR. JAMES V., of New York State Hospital Commission, appointed Superintendent of Grafton State Hospital at Worcester, Mass.
- MEHL, DR. CHARLES S., City Examiner in Lunacy of Buffalo, N. Y., died at his home, April 27, 1916, from cirrhosis of the liver associated with pulmonary tuberculosis, aged 47.
- MEERER, DR. JAY E., Medical Intern at St. Lawrence State Hospital at Ogdensburg, N. Y., promoted to Assistant Physician, April 1, 1916.
- MEYER, DR. ADOLF, Director of Henry Phipps Psychiatric Clinic at Baltimore, Md., made an address on The Extra-Institutional Responsibilities of State Hospitals for Mental Diseases at a joint meeting of the Boards of Trustees of Michigan State Hospitals held July 18, 1916.
- MIKELS, DR. FRANK M., Assistant Physician at New Jersey State Hospital at Morris Plains, appointed Pathologist. A daughter, Selma, was born to Dr. and Mrs. Mikels July 27, 1916.
- MILLER, DR. C. R., Assistant Physician at State Lunatic Asylum at Austin, Texas, resigned August 1, 1916, to accept a position in a laboratory at San Angelo, Texas.
- MILLS, DR. CHARLES K., formerly Professor of Psychiatry at the University of Pennsylvania, was given the honorary degree of Doctor of Laws by the University at its commencement, June 20, 1916.
- MITCHELL, DR. E. W., appointed Superintendent of Eastern Kentucky Hospital for the Insane at Lexington.
- MORROW, DR. GEORGE W., Assistant Superintendent at Anna State Hospital at Anna, Ill., transferred to Kankakee State Hospital at Kankakee, Ill.
- MUTCHLER, DR. H. R., Assistant Physician at New Jersey State Hospital at Morris Plains, resigned.
- NOYES, DR. ARTHUR, appointed Senior Assistant Physician at Psychopathic Department of Boston State Hospital.
- NOYES, DR. S. EVELYN, appointed Junior Assistant Physician at Northampton State Hospital at Northampton, Mass., and later resigned.
- O'BRIEN, MR. F. J., appointed Assistant in Psychology at Psychopathic Department of the Boston State Hospital at Boston, Mass., July 20, 1916.

- O'MEARA, MR. JOHN J., appointed Interne at Psychopathic Department at Boston State Hospital at Boston, Mass., July 6, 1916.
- PARDANYI, DR. EMIL, appointed Medical Interne at Connecticut Hospital for the Insane at Middletown, January 7, 1916.
- PARDOE, DR. VINCENT, appointed Acting Pathologist at State Hospital for the Insane at Norristown, Pa.
- PERMAN, DR. JOHN G., appointed Trustee of Worcester State Hospital at Worcester, Mass.
- PIERSON, DR. HELENA B., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., granted two months leave of absence to assist in a survey of the feeble-minded of Nassau County.
- POLLOCK, DR. HENRY M., appointed Associate Member of Massachusetts Commission on Mental Diseases.
- POSTLEWAIT, DR. JOHN A., President of the Board of Trustees of State Hospital No. 2 at St. Joseph, Missouri, resigned.
- PRATT, DR. EMILY A., appointed Assistant Physician at State Infirmary at Tewksbury, Mass.
- PRINGLE, DR. CYRUS E., Medical Interne at Buffalo State Hospital at Buffalo, N. Y., promoted to Assistant Physician.
- RAGSDALE, DR. L. E., Superintendent of Eastern Kentucky Hospital for the Insane at Lexington, resigned.
- READ, DR. CHARLES F., Assistant Superintendent at Peoria State Hospital at Peoria, Ill., appointed Managing Officer of Watertown State Hospital at Watertown, Ill.
- REGAN, DR. LOUIS J., Medical Interne at Utica State Hospital at Utica, N. Y., promoted to Assistant Physician, April 1, 1916.
- REXFORD, DR. HOMER I., appointed Medical Interne at Willard State Hospital at Willard, N. Y., June 1, 1916.
- RICE, DR. GROVER C., Third Assistant Physician at Nebraska State Hospital at Ingleside, resigned.
- RIESER, DR. S. L., appointed Clinical Assistant at Connecticut Hospital for the Insane at Middletown, February 25, 1916, and resigned June 30, 1916, to be House Physician at Beth Israel Hospital in New York City.
- ROBINSON, DR. ROY C., Second Assistant Physician at Western Kentucky State Hospital at Hopkinsville, resigned to enter private practice in Madisonville.
- RODGERS, DR. ARTHUR G., JR., appointed Medical Interne at Willard State Hospital at Willard, N. Y., June 14, 1916.
- ROSANOFF, DR. A. J., First Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., granted leave of absence from July 16, to November 30, 1916, to take charge of a survey of the feeble-minded in Nassau County, under the direction of the National Committee for Mental Hygiene.
- ROUNDY, DR. COLLIS I., appointed Assistant Physician at State Hospital No. 2 at St. Joseph, Missouri.
- ROWE, DR. CHARLES, appointed Medical Interne at Rochester State Hospital at Rochester, N. Y., July 8, 1916.
- RUMMAGE, DR. WILLIAM T., appointed Junior Assistant Physician at Boston State Hospital at Dorchester Centre, Mass.
- RUSSELL, DR. CLARENCE L., appointed Senior Assistant Physician at Utica State Hospital at Utica, N. Y., September 1, 1916.
- RYAN, DR. EDWARD, formerly Superintendent of Rockwood Hospital for the Insane at Kingston, Ontario, and recently in charge of the psychopathic ward of the Ontario Government Hospital at Orpington, Kent County, England, has returned to Kingston on a two months furlough.
- SAMPSON, DR. DAVID C., appointed Medical Interne at Government Hospital for the Insane at Washington, D. C., August 14, 1916.
- SCHORER, DR. CORNELIA B. J., Junior Assistant Physician at Psychopathic Department of Boston State Hospital at Boston, Mass., appointed Resident Physician at the new Psychopathic Cottage at Bedford Hills, N. Y.
- SHERMAN, DR. MORRIS M., Assistant Physician, Manhattan State Hospital, Ward's Island, N. Y., resigned September 4, 1916.

- SHOCKLEY, DR. FRANCIS M., Assistant Physician at Government Hospital for the Insane at Washington, D. C., resigned June 30, 1916.
- SIGHTS, DR. HENRY P., Superintendent of Western State Hospital at Hopkinsville, Ky., resigned and has returned to his former home in Paducah to resume private practice.
- SINGER, DR. H. DOUGLAS, Director of the State Psychopathic Institute at Kankakee, Ill., spoke before the Pittsburgh Neurological Society at a meeting held May 4, 1916, on Dynamic Psychology and the Practice of Medicine.
- SISKIND, DR. ABRAHAM, Assistant Physician, Manhattan State Hospital, Ward's Island N. Y., resigned June 12, 1916.
- SMITH, DR. ALICE M., Assistant Physician at Watertown State Hospital at East Moline, Ill., transferred to Lincoln State School and Colony at Lincoln, Ill.
- SMITH, DR. HIRAM J., Assistant Superintendent at Chicago State Hospital at Dunning, Ill., transferred to Anna State Hospital at Anna, Ill.
- SMITH, DR. ROBERT R., appointed Superintendent of Alton State Hospital at Alton, Ill.
- SMITH, DR. THOMAS FRANKLIN, City Examiner in Lunacy of New York City, died at his home June 6, 1916.
- SOMERS, DR. ELBERT M., Superintendent of Brooklyn State Hospital at Brooklyn, N. Y., resigned August 1, 1916, on account of ill health.
- SOPER, DR. ARTHUR E., Assistant Physician promoted to Senior Assistant Physician, Manhattan State Hospital, Ward's Island, N. Y., July 1, 1916.
- SPRATLING, DR. EDGAR J., formerly Assistant Physician at Monson State Hospital at Palmer, Mass., and at Matteawan State Hospital at Beacon, N. Y., was shot and killed by a woman at the state mobilization camp at Macon, Ga., August 25, 1916.
- SPYGLE, DR. E., appointed Assistant Physician at New Jersey State Hospital at Morris Plains.
- STEVENS, MR. ELMER L., appointed Associate Member of Massachusetts Commission on Mental Diseases.
- SWALM, DR. C. J., Pathologist at State Hospital for the Insane at Norristown, Pa., resigned to enter private practice.
- THOM, DR. DOUGLAS A., Assistant Physician and Pathologist at Monson State Hospital at Monson, Mass., appointed Assistant Pathologist to the State Board of Insanity with headquarters at the Summer Street Department of the Grafton State Hospital in Worcester, Mass.
- THOMPSON, DR. GEORGE R., Superintendent of State Hospital No. 2 at St. Joseph, Missouri, resigned.
- THORNE, DR. FREDERIC H., Pathologist at New Jersey State Hospital at Morris Plains, appointed First Lieutenant in the First Field Hospital Corps of the New Jersey National Guard and left for Mexico June 23, 1916.
- TIVNAN, MR. JOHN B., Trustee of State Infirmary and State Farm at Tewksbury, Mass., term expired, and appointed Associate Member of Massachusetts Commission on Mental Diseases.
- TULLIDGE, DR. E. KILBOURNE, appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, February 10, 1916, and resigned June 27, 1916, to accept a commission as Assistant Surgeon in the Pennsylvania National Guard.
- VENABLE, DR. SIDNEY C., formerly Assistant Physician at Cleveland State Hospital at Cleveland, Ohio, appointed Assistant Superintendent.
- VETTER, DR. GEORGE V., Medical Intern at Rochester State Hospital at Rochester, N. Y., resigned May 1, 1916, to enter private practice.
- VOGT, DR. ALFRED H., appointed Medical Intern at Buffalo State Hospital at Buffalo, N. Y.
- VOLDENG, DR. M. NELSON, Superintendent of State Hospital and Colony for Epileptics at Woodward, Iowa, has been elected a Delegate to the American Medical Association by the Iowa State Medical Society.
- VROOMAN, DR. F. S., Assistant Superintendent at Brockville Hospital for the Insane at Brockville, Ontario, appointed Medical Superintendent of Ontario Military Hospital at Cobourg.
- WADE, DR. J. PERCY, Superintendent of Spring Grove State Hospital at Catonsville, Md., has been sued for \$5000 damages for alleged negligence in employing an attendant who pleaded guilty of assaulting a patient and causing his death.

- WALHOUSER, DR. ANDREW H., appointed Junior Assistant Physician at New Jersey State Hospital at Morris Plains, June 1, 1916.
- WALKER, MRS. GERNA SAVILLE, Social Service Worker at Medfield State Hospital at Medfield, Mass., resigned.
- WALKER, DR. LEWIS M., First Assistant Physician at Medfield State Hospital at Medfield, Mass., resigned to accept a position at Randall's Island, N. Y.
- WATSON, DR. C. L., Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., resigned June 30, 1916.
- WEATHERBY, DR. FRANCIS E., Medical Interne promoted to Assistant Physician, Manhattan State Hospital, Ward's Island, N. Y., July 1, 1916.
- WELTNER, DR. FRED PAUL, Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md., resigned September 15, 1916, to enter private practice in Bluefield, W. Va.
- WHITTINGTON, DR. WILLIAM L., appointed Superintendent of State Hospital No. 2 at St. Joseph, Missouri.
- WILLIAMS, DR. RODNEY R., Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., promoted to Senior Assistant Physician August 1, 1916, and transferred to the acute hospital service.
- WISEMAN, DR. JOHN I., Assistant Physician at Boston State Hospital at Dorchester Centre, Mass., resigned.
- WITZEL, DR. AUGUST E., appointed Medical Interne at Utica State Hospital at Utica, N. Y., June 7, 1916.
- WOLFE, DR. HUMPHREY D., appointed Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md., September 15, 1916.
- ZWETSCH, DR. JOHN D., Consulting Surgeon to the Gowanda State Hospital at Gowanda, N. Y., was killed by the overturning of his automobile near the Gowanda State Hospital, May 6, 1916, aged 57.